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Birds-of-Paradise at Little Tobago Island

By HENRY D. BAKER
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AN island of some 350 acres, Little Tobago, located about two miles east of the northeastern corner of Tobago (Tobago is situated about 30 miles to the northeast of the British island of Trinidad), has become quite famous as the home of Birds-of-Paradise. Sir William Ingram, who thought the island would make a suitable sanctuary for the birds, had about 50 cocks and hens brought from New Guinea some twelve years ago. It is understood that at first the birds diminished in numbers, but the more hardy ones reared an increasing offspring. Little Tobago was recently purchased by Mr. A. Luban of Newark, New Jersey, who had conceived the plan of removing the birds to specially selected ground near Miami, Florida, where it was hoped that they might rapidly increase.

Mr. W. C. Luban, son of the new owner of Little Tobago, has now spent some months on this island carefully observing the habits of the Birds-of-Paradise residing there, and making comprehensive efforts to arrange for their transfer to a six-acre enclosure already prepared for their reception at Port Lauderdale, near Miami, Florida.

Although Mr. Luban has met with poor luck in his efforts to capture the birds for transfer to Florida, he has been able to make most interesting observations of their habits and to learn very much about them that was never known before. I have had the pleasure of several calls from Mr. Luban, and also have received letters from him giving results of his studies amongst these birds, and have had his permission to make public the result of his investigations.

Dancing in the Trees.

Among the unique habits of the Bird-of-Paradise are the gay dances of their social life, especially during their breeding-season, and the fact also that these birds appear to be under definite leadership by one of their number, whose constant watchfulness probably accounts in large measure for their success in perpetuating their existence, and their avoiding traps for their capture.

A flock will first settle onto a tree, and then all the full-plumaged males will

pick out a particular limb, and start their characteristic dance, which is mainly an exaggerated toddling movement and jumping up and down, with their golden plumes extended in the shape of a fan over their heads. Generally speaking, they are crouched with heads bent downwards and wings flapping in unison with the spreading of their tails. The hens at first only look on in mute admiration. The position of the sexes is the reverse of that in human society, for among these birds it is the sterner sex which is endowed with the greater beauty, the hens being plain, simple and unassuming in their appearance.



A ROADWAY ON LITTLE TOBAGO

Photographed by W. C. Luban

After dancing for a few moments, the male birds, whether in play or in fight, suddenly start a kind of merry-go-round canter after each other, making complete circles, but occasionally deviating to near-by trees. Then they quietly settle down for a few moments in a restful interlude. The dancing is then continued, lasting from about 15 minutes to half an hour, but finally, before the dance closes, the hens join in also, and circle around with the cocks in a kind of grand right and left cotillion figure, which much resembles the 'Paul Jones' of our own ballrooms, when young and old, wallflowers and favorites, may all join. Sometimes, however, a single bird will continue to dance by itself. The effect is most brilliant and beautiful, making a climax of spectacular and bewildering interest.

After the dancing is over, the birds finally settle in pairs, male and female, and then fly away together. Occasionally, however, one large male bird may

be seen flying off with two or three hens, and sometimes, those out of luck may have to go away alone. Whether the birds practise polygamy or monogamy is unknown.

The dancing parties are always held at selected trees and at appointed hours, usually just after sunrise or just before sunset, and mainly in the breeding-season. In a recent letter to me, Mr. Luban wrote:—

“I think I have already mentioned to you that there is not a month in the year that we have not seen, on at least a few occasions, male birds going through their dances. When they have no display plumes, this consists mainly of slowly flapping their outstretched wings and sometimes hopping about the limbs. At these times they appear to have no favorite trees, but indulge wherever they chance to be. From what I have read of the habits of Birds-of-Paradise, I understood dancing to be a phenomenon of the mating-season only; and therefore was much surprised to learn otherwise. A queer action of the males, noticed several times by my men and myself, is their snapping off of tiny twigs of leaves. This is usually from their ‘dancing’ trees.”

Leadership of Birds-of-Paradise.

Mr. Luban has made the discovery that the flock of birds apparently has one leader, who seems to be able to exert control over them. In one instance, Mr. Luban's helpers put a quantity of traps and birdlime in a particular tree, where this big full-plumaged leader was in the habit of coming. It was in a tree where he generally came to drink from one of the water-pots placed for the birds, and one in which the birds gathered to dance in the mornings and late afternoons. Soon after setting the traps very early in the morning before sunrise, this particular bird came in and was caught on the birdlime, but eventually freed himself. Since that time no Bird-of-Paradise has been observed to enter that tree although only one bird, the chief of the flock, knew of the dangers of it. In all cases, once the bird gets away from a trap, it is practically impossible to get it by any of the usual methods. The native Tobagan birds, on the other hand, are decidedly inferior in intelligence, as time and again they can be caught, notwithstanding numbers of their flocks have been previously trapped and taken before their very eyes.

Method of Flight.

Birds-of-Paradise fly with an undulating motion. The longest flight a bird has been seen to make at Little Tobago is about 400 yards; however, such flights are uncommon. The adult male birds when in full plumage, evidently finding themselves burdened by their plumes, do not cover big distances, and keep away from windy places. It has also been noticed that the full-plumaged bird flies in an exaggerated dip-and-dive motion. This has been noted particularly in a part of the island infested with Hawks and may be for the purpose of escaping the attacks of Hawks. When they see a Hawk coming toward them they dive to the ground. In the air, the Bird-of-Paradise is at a disadvantage,

for he is not a strong flyer and cannot cover big distances; moreover, he is very conspicuous, especially when full-plumaged. Several times Mr. Luban has noticed a Hawk circling above Birds-of-Paradise dancing in a tree, the Hawk having been attracted by their cries. The Birds-of-Paradise, however, appear to know the Hawks and to fear them, and when they are in the vicinity, they will stop making their usual calls and if the Hawks continue in the neighborhood the Birds-of-Paradise may keep away from their favorite trees for some days. There is no doubt that the Hawks kill the Birds-of-Paradise, for Mr. Luban found remains of one in a Hawk's nest. So far as known Hawks are the only enemies of the Birds-of-Paradise on Little Tobago. While Hawks have been seen to attack a full-grown wild Pigeon and seriously wound it, yet they have not actually been seen to get near enough to a Bird-of-Paradise to inflict injury. They have, however, been seen to chase the females, although in each instance the bird managed to escape. The hen, of course, can get away more easily than the male bird with its more cumbersome plumage.

Breeding-season between November and March.

Mr. Luban's records indicate the beginning of November to the end of March as the extreme limits of the breeding-season. The ornamental plumage in the adult males develops from May until the breeding time. But evidently it is not retained long in its perfect and most beautiful condition, for it has been noted in at least a few instances that there is gradual loss in length, doubtless by moulting, of the plumage right into the mating months. Generally speaking, the birds breed about the ending of the wet and the beginning of the dry season, and the young birds leave their nests when the dry season is well advanced, and it is necessary to search for water.

Just after the breeding-season they do not go about in flocks. During the breeding season as many as fifteen or sixteen are to be seen in a tree, although the more usual number is eight. After the breeding-season, only single birds or two or three are seen at a time. Mr. Luban once observed a fight between two male Birds-of-Paradise. They were so intent on themselves and the other birds were so interested in watching them that they did not observe the trapper coming up. One bird was hanging to the perch head downwards, the other directly above him; they grasped each other and fell to the ground. It was very steep ground and they rolled to the bottom but after a few minutes, they reappeared and joined the flock, both birds evidently being very exhausted, and keeping on opposite sides of the tree, shy of each other. During this fight, about eight birds were present, the majority being hens. It was the male birds who were fighting. The birds remained right overhead when the man came up. They usually circle over a stranger and perhaps leisurely fly away but show no great fright. The full-plumaged male seems more shy than the female.

Favorite Diet of Birds-of-Paradise.

At the present time, two water-pots are kept about 20 feet above the ground in their favorite trees. They seem very fond of papaws. They eat also what is known locally as the "parrot apple," the only fruit available in the dry season. This is indigenous to the island and is their mainstay for six months of the year. A bird now in captivity at Little Tobago is very greedy for scorpions. Although domestic fowls can eat a scorpion with apparently no ill effects, yet with this Bird-of-Paradise its keeper takes no chances, but cuts off the scorpion's tail before giving it to the bird. The bird was also offered lizards, but did not appear to be particularly fond of them, and eventually refused them alto-



LITTLE TOBAGO ISLAND FROM TOBAGO ISLAND

Photographed by H. D. Baker

gether. It has lately taken a liking to cockroaches, which at first it refused altogether. It refuses rice and all cooked foods. It is given a little raw meat once a week, and liked condensed milk from the very start. Its main diet is a variety of fruit, including papaw, banana, wild plum, oranges, etc. When camp was cleaned recently, there were found a number of large scorpions which were offered to the captive. These it crushed in its bill first and after they were dead, it swallowed them and seemed to enjoy them. The bird in captivity, which is a hen, apparently eats well but makes no noises except a very low cackling cry or grumble, when it goes for its food, and does not seem to wish to have persons around it.

Flight to Tobago.

The channel between Little Tobago and the island of Tobago is about two and a half miles at its narrowest point. Rumors have been circulating for some time past about birds being seen on the main shore. Mr. Luban went over to investigate the matter and saw one young Bird-of-Paradise. It was

very commonly in company with a flock of Yellow-tails (*Cassicus*). For the two and a half weeks he was there, it made no sound whatever, and on this account it was impossible to trace its movements. This bird was seen at Igenza, which is the nearest point on the island of Tobago opposite to the smaller island. It seems likely that others may have crossed and have been shot out by hunters. It is to be hoped that they may be specially protected, for if they can gain a footing on the larger island, they will probably tend to increase faster than on Little Tobago, because water and food are more plentiful all the year round. Ordinarily, it would not be possible for the Bird-of-Paradise to fly across this channel, but in view of the fact that high winds are of frequent occurrence, and invariably blow toward the larger island, it is possible that they may have been blown across.

No Nests or Eggs Found.

No nests or eggs have ever been found, but that may be due to a large part of the island being inaccessible on account of steepness. There has been found, however, one nest which was probably that of a Bird-of-Paradise. This particular nest was blown down from a bay leaf tree, about the center of the island. It was new, recently built of coarse twigs, lined with dry leaves, during the breeding-season of the birds. There was no other bird on the island which could build a similar nest except the wild Pigeon, but it was not their breeding-season. The breeding-season is assumed to be the period of full plumage when the birds go in flocks. The birds apparently get less shy as the breeding-season approaches. The area of the island is about 350 acres. There is scarcely any level ground in the island at all, and it is about $1\frac{1}{2}$ miles in the longest part. The Birds-of-Paradise keep mostly to the west side of the island. Mr. Luban's camp is in the highest part—470 feet high.

On the eastern, or windward side which the birds frequent very little, the vegetation is mostly cactus and other low bush. On the western side sheltered much more from the wind, there are tall trees descending almost to the water's edge. This is the side which faces Tobago. Birds dance on both high and low trees. When they gather in the mornings and late afternoons in flocks, during the breeding-season, they select what is known as the wild banana trees. These trees have considerable foliage, but a comparatively clear space inside giving room to dance about. This tree bears a particularly tiny red seed, but the Bird-of-Paradise has never been seen to eat it.

Roosting Habits.

Their feeding-grounds are quite a distance from where they go to rest at night. They wait until just before sundown and make a quick flight to their roosting-places in thick woods, possibly on bamboos. They make no noise when they fly to their roosting-places, which makes it almost impossible to follow them and locate exactly where they sleep. In the morning their first calls are made

considerably before sunrise. The Birds-of-Paradise are often seen coming out just as there is sufficient light to see pathways. At midday they seek the shady parts of the forest and are most commonly seen early in the morning or late in the afternoon, this being the time when they are most lively and call loudest. They may be in the same trees during the noontime but are quiet and motionless. Sometimes it is possible to hear their cries about half a mile away. They have a variety of calls. The full-plumaged birds at times make a sound very much like the ordinary Crow and something like *caw, caw, caw*. The full-plumaged male has a stronger voice than the female. Its characteristic cry is something like *wawk, wawk, wawk*. This seems to be a cry sent broadcast for any bird to answer, and leads to the collection of the flock. In answer the birds will give two to four cries, never the same number, all the same sound and some will merely come forward without cries. Several times, by imitating these cries, Mr. Luban has had birds come toward him, but this could never be done a second time unless by an even more clever imitator. When they go for their food, they make a certain peculiar cry when other birds are in the way, the same as the bird in the cage already described. They utter different notes when they are dancing.

The Yellow-tail bird appears to be afraid of the Bird-of-Paradise rather than the other way round. The Yellow-tail never disputes possession of a tree. An instance has been seen of a fight between a Yellow-tail and a Bird-of-Paradise, the former getting the worst of it. Any fighting is done with beak and claw.

Baffling Efforts at Capture.

Mr. Luban, writing in January, stated:

"At the present time, a flock is gathering and has been for the past two months, on a 'wild banana' tree. In this instance it is quite a tall one, some 50 feet, and is the highest in the vicinity, projecting above near-by trees, so that it is plainly visible from the caretaker's house and at times Paradise Birds can be seen in it by the aid of a good glass. A full-plumaged male virtually lives in this tree, seldom leaving it for over a quarter of an hour at a time, except at dusk when he travels to his roosting-place a good distance away. He is on the spot about half an hour before sunrise as regular as a clock. At various times during the day he utters his cries, which attract the other Paradise Birds in the vicinity, and they go through their antics for some fifteen minutes or more. They then gradually disappear except for this big male bird who seems to act as master of the ceremonies. Due to his insistence on sticking around from day until night, and being, in effect, such a vigilant watchman, my trappers are excessively hampered. It is impossible for us to do anything to the tree in the daytime without this bird seeing us, and night work in this particular instance is impracticable. A few days ago at dusk, my man climbed the tree and no sooner was he at the top than the 'watchman' (who we thought

had gone to roost for the night) flew into the tree for an instant, and then to a nearby treetop the better to observe the man's actions. Having already learned of the sagacity of the Birds-of-Paradise by unsuccessful experience in trapping and knowing that to be seen on a tree renders all traps there useless, my man descended. I was extremely interested to ascertain if this incident would cause any alteration in the bird's preference for his favorite tree. And so the next morning, very early, I watched from my place of concealment with particular sharpness. I heard his customary cry, and soon he was on the scene but not in his favorite tree. His calling gathered the usual small flock of six to ten birds nearby, but I noted that none entered the tree in question—until about sunrise, somewhat later than was habitual, this watchman (who is easy of identification, having by far the longest ornamental plumage) went in first. It was quite plainly a cautious entrance of investigation, for he did not enter with his wonted dash and dance. The other birds followed soon after him, and again the morning ceremonies were on. I think this incident tends to illustrate the remarkable coöperation and intelligence the Paradise Birds here display."

The Bird-Feeding Towers of Ahmedabad

By GRANT FOREMAN, Muskogee, Okla.

THE city of Ahmedabad, India, has 250,000 population and it is dirty and dusty. The street-sprinkler walks along, wetting the dust about him from a goat-skin of water he carries on his back. Camels slouch through the thronged market places. The streets are full of strange sights, but nothing held greater interest for me than the frequent bird-feeding towers along the busy thoroughfares. These conspicuous features of Ahmedabad are built and maintained and the feed is furnished by the Jains, the most influential sect of non-conformists to the Brahmanical system of Hinduism in India; they believe that all animals are endowed with souls or are the temporal homes of the spirits of departed Hindus, and, in common with all Hindus, do not believe in taking animal life.

The Jains are the wealthier class of Indians, and they have been able to indulge their fancy in erecting substantial and ornate feeding-places for all their birds that come freely into the busiest streets knowing they will not be molested. I saw ten or fifteen of these feeding-places, which were usually erected at prominent street intersections. Some of them were built of marble and must have cost several thousand dollars each. The feeding-platform, at an elevation of twelve to twenty feet, is reached by a little stairway. In some instances it is supported by a single column and sometimes the structure is built solidly from the ground up six to ten feet in diameter. Apparently many kinds of what we would call wild birds mingle freely with English Sparrows and Pigeons in the feeding-places. The feed is spread out on the floor and on shelves under a well-constructed and substantial roof which protects the birds

from the fierce sun and the rain. I frequently saw man-made nests swinging under the roof and birds sitting on them unmindful of the racket of the traffic around them.

In the Jain temples, boxes are provided into which worshippers and visitors to the temples drop coins which go into a fund for the purchase of bird-feed and maintenance of the feeding-places. It gives the American visitor a distinct surprise to see, in what we are accustomed to regard as benighted India, this elaborate provision for the protection of the birds and most effective bid for their friendship and confidence.



A BIRD-FEEDING TOWER AT AHMEDABAD, INDIA,
Photographed by Grant Foreman



BRONZED GRACKLE

Photographed by Dr. Frank N. Wilson, Ann Arbor Mich.

The Marsh Hawk in Southern Michigan

By WILLIAM G. FARGO, Jackson, Mich.

With Photographs by the Author

BECAUSE of bounties being paid for killing Hawks and the general warfare by farmers against the whole Hawk family, these birds are much less common in southern Michigan than formerly. In the southern third of the Lower Peninsula of Michigan, the remaining woodlands are small in extent, but there are numerous marshes, which are infrequently mowed or not mowed until late in July. Hence the common Hawk of this region is the Marsh Hawk.

Occasionally the Red-tailed, Red-shouldered, or Broad-winged Hawks are seen, but not often. Except during the migration periods, the smaller Hawks, including the Sparrow-Hawk, Cooper's and Sharp-shinned are now seldom seen in the south central part of this Peninsula.

The adult male Marsh Hawk presents a general appearance of blue-gray color, although whitish underneath. The female is a brown bird, being dark umber on the back and lighter below, with dusky streaks on the breast and sides. Both males and females have the upper tail-coverts white (in the male, bluish white), making a distinctive patch on the lower back, also both have the tail cross-barred with lighter color, both above and below. The immature birds of both sexes resemble the adult female, but are darker all over, presenting a very handsome appearance with their glossy, dark umber backs glistening in the sun. In this locality they attain full size and begin to fly early in July.

The Marsh Hawk has a perceptible face-ruff somewhat like an Owl. This



FEMALE MARSH HAWK ADDING GRASSES TO HER NEST AFTER LAYING

can be seen in one of the accompanying photographs. The adult male Marsh Hawk is nineteen to twenty inches in length and the female twenty-two to twenty-four inches long. These Hawks feed largely upon mice and moles and are commonly seen skimming low over the marshes in quest of such prey. Dr. A. K. Fisher considers this one of the most beneficial of our Hawks and says: "It is probably the most active foe of meadow mice and ground squirrels, destroying greater numbers of these pests than any other species." Out of 124 stomachs reported on by Dr. Fisher, 7 contained poultry or game birds; 34, other birds; 57, mice; 22, other mammals; 7, reptiles; 2, frogs; and 14, insects.

This Hawk, so far as the writer knows, always nests upon the ground, where it builds a rather flat nest of weed-stalks and grasses. The nest, when



MARSH HAWKS ABOUT THREE WEEKS OLD

the eggs are laid, may be not over fifteen inches or eighteen inches across and perhaps 2 inches above the sod. It seems to be a habit of this bird, however, to add to the nest from time to time, so that when the young are half-grown there is frequently a platform of grass and weeds 3 feet in diameter or more. One of the accompanying photographs shows the female Hawk just alighted beside the nest with its bill full of grass. At the time of taking this photograph, May 19, 1923, the incubation period was two-thirds past, as the young hatched during the last week in May.

The nest shown in these photographs was one of two in the same marsh, about a half mile apart, each containing six nearly white eggs. The young on the two nests hatched about the same time. In both nests, one of the eggs hatched several days after the others and in each nest one of the young remained much smaller and did not fly until the other young had been active in the air for some days.

Twice while in the vicinity of one of these nests, the male was observed to bring food, consisting of a small bird, to the vicinity of the nest. The female

then arose from the nest and took the bird in the air, a hundred feet or more above the nest. All prey is taken and carried in the talons; once she missed the catch in taking it from the male and it dropped about fifty feet before she caught it.

The first time that the male was observed to bring food was during the incubation period. Then the female flew away some eight hundred feet, ate the bird and returned in a leisurely manner to the nest.

The second time that food was seen to be brought by the male was after the young had hatched; then the female returned quickly to the nest and the bird brought was found to be apparently an immature Red-winged Blackbird.

Bobolinks, Song Sparrows, Henslow's Sparrows and Short-billed Marsh Wrens were apparently nesting within about two hundred feet of this particular Hawk's nest and these several varieties of birds exhibited little if any concern when the Hawks were flying about. Probably this was because of the ease of eluding a Hawk in the tall grass.

The Marsh Hawk seldom utters a sound as it flies and soars about over the meadows scanning the ground for its prey. The alarm note of these two female Hawks, uttered when disturbed in the vicinity of the nest, or when the immature young were about, was a not unpleasant whistling, *qui-qui-qui*, not in any way resembling the shrill squealing of the Red-tailed Hawk, nor the subdued throaty *kee-aah* of the Red-shouldered Hawk, soaring in circles, high aloft.



A KINGFISHER AND HIS CATCH
Photographed by F. N. Wilson, Ann Arbor, Mich.

Feeding-Habits of the Northern Shrike

By RALPH E. DANFORTH, Instructor in Zoölogy, Rutgers College

ON January 3, 1918, shortly after sunset, with the thermometer a little below zero (Fahr.), and the ground covered with snow, I saw a Northern Shrike in a small tree in Highland Park, N. J., and approached quite close before he moved to a near-by tree, whence, on being still pressed by me, he flew some seventy yards to a patch of ornamental shrubbery. In this trip the bird caught a large meadow mouse and had wedged it in a low-bending fork of a shoot which bent over till it touched the snow. When I came up the fork was around the waist of the mouse, the hips and hind legs preventing it from being drawn through the crotch by the bird, which stood on the same shoot, though at a higher point, pulling backward and upward as he skinned the mouse and tore pieces of flesh to eat. The bits of skin and fur were allowed to drop to the snow. When I approached too close, the bird flew to another patch of shrubs, taking the mouse with him. Here he disemboweled the mouse neatly. To examine what the bird had rejected, I scared it to a third clump of shrubs, then hastened to get two youths from a house nearby to come and see the skilled anatomist eating his prey. It was truly surprising to see the feats the bird could perform with his bill alone and the very evident knowledge he had of the anatomy of the mouse.

When there was nothing left but the hindquarters and tail, there being nothing which could be conveniently wedged into a fork or crotch, the bird thrust the piece upon a carefully selected spur on a shrub, in such manner that the spur passed into the natural opening through skin and pelvic arch, for there was still a bit of skin left about the hindquarters, since the bird had skinned the mouse piecemeal as he ate it. The pelvic arch, hind-legs and tail were left upon the spur, but all meat had been removed and eaten. The remnant was still on the spur the next morning, frozen fast to the shrub. From the foregoing it seems that this Northern Shrike used the nearest convenient fork in which to wedge his victim instead of going to some thorn-bearing plant, and that when forks failed to avail he found a thorn-like spur nearby without going further to where real thorns could be had, at no great distance. Probably if a thorn had been nearer than the spur he would have used it at the last instead of the blunter spur. In selecting a fork he always seemed to prefer one so placed with relation to its surroundings that he could stand as high or higher than the fork and pull upward and backward instead of pulling downward from above.

In the November-December, 1918, BIRD-LORE, Prof. A. A. Allen gives his observations of the feeding of a Northern Shrike which likewise wedged its mouse in a narrow fork, and even when a thorn bush was brought and the mouse spitted upon a thorn, the bird did not seem to appreciate the effort but preferred to use a fork. It is indeed possible that the mouse was not spitted in the height of Shrike art in relation to the surrounding twigs which might serve as

perching-place while tearing the mouse, but my own observations confirm those of Professor Allen in that the Shrike is perfectly satisfied to use forked branches, although my Northern Shrike was equally adept in the use of thorn-like spurs when such became advantageous. Very little seems to have been recorded as yet upon the habits of the Northern Shrike, and I would suggest that other bird observers make it a point to look for these birds in winter with this end in view.

Early in April, 1917, a Northern Shrike which I observed came to southern New Hampshire and remained in the same locality more than three weeks before going farther north. The spot was near a river and flooded meadow. The bird would perch on telegraph wires and poles by the railroad, as well as on trees and shrubs. On the coldest and bleakest days of that cold April I could find him almost as certainly as on the sunny days while he remained with us. His feathers were fluffed out on the cold days, and he would sit thus by the hour without spying anything to catch. On sunny days I watched him catch hundreds of insects, which he would spy down in the grass, often at considerable distances. He did not look nearly so happy as the many Loggerhead Shrikes I had just been watching in southern Florida a few weeks previously.

Of the many species of Shrikes, most belong to the Old World. The Great Grey Shrike of Europe resembles our Shrikes somewhat in color and pattern, and has been used as a sentinel to give warning of the approach of a Falcon so that the fowler may draw his net in time to catch the Falcon. This Shrike, and also the Red-backed Shrike of Europe impale insects and larger prey upon thorns. The Red-backed Shrike is called by the French '*L'ecorceur*,' the flayer, from its habit of skinning its victims before eating them. My Northern Shrike was also a flayer. The common 'Fiskal' Shrike of South Africa impales insects and the like on thorns.



Observations on the Mockingbird at Dallas, Texas

By ALICE B. HARRINGTON, Boston, Mass.

ON June 9, 1923, the first broods of the Mockingbird nesting on the estate of R. A. Gilliam, Dallas, Texas, had flown, and in a new nest in the rose vine over the arbor there were four lovely blue eggs splashed at the larger end with dark brown.

In a rose vine on the veranda another Mockingbird began to build its nest June 7; on the 10th the outer shell of the nest was completed, and on this day



FOOD AND DRINK FOR THE BIRDS

Photographed by R. A. Gilliam

Mr. Gilliam brought some dried sprays of dusty miller and placed them in bushes and on the lawn. The Mockingbird immediately began to use this dusty miller, and we noticed that now the female helped in building the nest, remaining mostly at the nest arranging pieces of this plant as the male brought it to her. We knew it was the male bird which started the nest, as each time he brought a twig or straw, even with the very first one he laid (as we were eating our lunch on the veranda), he sang a little song as he alighted on the

rose vine. On June 12, the nest seemed to be finished, and there were a few sprays of the dusty miller fastened upright at the side of the nest nearest the porch, as if for decoration.

Mockingbirds usually walk or run while on the ground, and spend a good deal of time running over the lawns searching for insect food. Sometimes they will stop and hop into the air to catch a small flying insect of some kind. They also have a habit of flying to a point below the place where they propose to alight and then straight up to the perch. The songs and calls of the Mockingbird are so many that it would be almost impossible to enumerate them. It



MOCKINGBIRDS AT THE BATH

Photographed by R. A. Gilliam

imitates exactly the song of the Cardinal, so that you could not declare which bird it was unless you saw the bird singing. It sings distinctly the songs or calls of the Carolina Wren, Quail, Blue Jay, Flicker, Red-headed Woodpecker and is very fond of imitating Guinea-hens, and also the Whip-poor-will.

Mr. Gilliam has noted the following in regard to the food of Mockingbirds: They eat berries as a steady diet the year round, berries from the prickly ash and mulberries, also cherries, tomatoes and peaches. Robins in migration

disturb them very much because they devour the coral berries, of which the Mockingbirds are very fond. They also eat an enormous amount of insect-food, moths, grasshoppers, etc. They eat suet somewhat when they are feeding their young, and also drink milk from the pans set out for the dogs. In the garden they follow anyone digging and the moment a grub or worm is uncovered, seize it. All kinds of nuts are eaten by them, and they are especially fond of the paper-shell pecan.

FLIGHT SONG AND DANCE OF THE MOCKINGBIRD

On the estate of Mr. Gilliam, about twenty pairs of Mockingbirds nest every year. The flight song and nuptial dance of the Mockingbird have been observed by Mr. Gilliam many times. In the early spring, he says, the Mockingbird takes his perch on a tall post, or some such elevation in the open (the top of a chimney is a favorite perch) and flies straight up into the air for ten or fifteen feet and then down again to the chosen place, singing all the time; he waits for a minute or two and then repeats the flight and song, and so on for a short time, when he flies to a different perch and goes through the same performance.

In the early spring Mockingbirds can be seen dancing in pairs on the lawn. Later, when they are preparing for a second or a third brood, there is no flight song but the dancing is continued, although less frequently.

We saw the dance of the Mockingbirds on two different days in June (when visiting Mr. and Mrs. Gilliam) this year. It was a curious and most interesting performance. The first time they danced exactly opposite each other. They faced each other about a foot apart, hopped up and down, moving gradually to one side, then back again, and so on. A second pair began their dance in the same position, but first one hopped twice to one side, then the other followed the first, which hopped again sideways and the other followed, always facing each other, then they moved back in the same manner to where they started and repeated the performance. After each dance was finished the birds flew off a short distance in opposite directions.



Notes from Field and Study

The Joys of a Bird-Table

We think we have a wonderful record for a city place,—sixty different kinds of birds in one year—1920. We have a lot only 100 by 300 feet, but we do admit that Cincinnati is more than fortunate in being near rivers and in having so many ravines and trees which provide natural protection and nesting-sites for birds.

We put a wide shelf on an upper window-sill off the sitting-room with trees near it and on this shelf we keep a supply of goodies from early in the autumn until very late in the spring. We always have a big piece of suet, for if we have little pieces the squirrels come up the brick wall and carry them away. Every morning we put out three big handfuls of sunflower seeds and if we don't get them out just when the Cardinals think they should be there, they come to the window and tap on the glass. We have come to know the individual birds very well indeed; for instance; one Cardinal had something the matter with his tail so that it was always spread out—we called him Mr. S. T. Cardinal (spreading-tail); another one had a very crooked tail, so we named him Mr. C. T. Cardinal. One of the lady Cardinals had no tail at all, but she didn't seem to mind in the least and went in the very best of Cardinal society. One of our most interesting friends was a Titmouse that had lost a foot just at the ankle and his feathers were all ruffled up as though he had been in a fight. It was surprising how well he managed with one foot; we called him the 'veteran' and he hobbled about just like an old soldier and we noticed he was always ready for a fight too.

We love best the Chickadees, their caps are so like black velvet, their calls are so very friendly, and they really are the most unselfish, for they make room for the others and never push and shove as some of the Woodpeckers do. It took the Downy Woodpeckers a long time to come to the shelf, they seemed to be so fearful, but it is such fun to see them come peeking over the edge, for they never

fly right down onto the board as all the others do, but come up from underneath. I think they alight on the wall and creep up gently. Last winter we had a Carolina Wren all winter and were so glad we had been able to keep him for his song in the spring was just heavenly. As far as we know the Brown Creeper has never visited the shelf though he creeps up and down our trees most faithfully. Does anyone know of a special kind of tid-bit that might tempt him? We get peanuts and grated cocoanut, put them in melted suet, then pour it into a tin can lid and, when it hardens, put it out for them as a special treat.

We do so want to know if the Blue-Jay swallows the sunflower seeds whole or just fills his mouth full and then goes off somewhere to eat them at his leisure. Can anyone tell us? We have from ten to twelve birds all through the winter even in the very worst weather, and when it is freezing hard we put hot water out every now and then so they have several chances to get a drink during the day. If you really want to know the birds intimately, do try a shelf on a window-sill in a room where you are most often and you will have a wonderful time watching them at close range.—ALICE CROSS, *Cincinnati, Ohio*.

From a Bird-Lover's Note-Book

We often read of the ways in which birds will adapt themselves to circumstances, and build and rear their young in unusual, and often unnatural surroundings. One of the most interesting incidents of this nature was that of two young Rose-breasted Grosbeaks, whose parents chose a small elm, just outside our lawn as a suitable place for their rather carelessly constructed nest.

On the afternoon of June 7, 1922, after a sudden and violent thunder shower, I heard a male Grosbeak calling furiously at several Robins on the lawn, and on going out to discover the cause of the disturbance, saw two downy nestlings, one clinging to the tree

trunk about a foot above the ground, the other on the wet grass.

To the accompaniment of hard language from the old birds, I gathered up the tiny, fuzzy fledglings and, placing them on a low-hanging branch, ran for my camera. The tiny birds were ideal posers, sitting with the utmost docility in any position we were minded to place them, for they were still too young to show fear of their human admirers. But the pictures were, much to our disappointment, a failure.

As the wind and rain had completely demolished the frail nest, and as another violent shower had commenced, I had to rescue them from another drenching. Hastily manufacturing a soft round nest from an old blue dusting cloth, I placed the babies in the odd cradle and here they cuddled down contentedly. As the skies once more cleared, I hung the nest by means of two stout safety-pins to the grape-vine on the front veranda, and here the male and female soon came and fed them, apparently paying no attention whatever to the curious little blue gingham nest that held them.

After nightfall, as more storms were threatening, and the nest could be too easily located by cats, I transferred it, birds and all, to an empty strawberry box and carried it into the house for safety. We heard the low musical call of the female soon after four o'clock the next morning, but as we didn't get the box fastened in the vines until five o'clock, an hour elapsed before she came back again. At six we heard her call from the trees, and the young ones quickly answered with their plaintive 'here, here.' The mother bird approached cautiously, and after a careful scrutiny of the box, leaned down and thrust a worm into a wide-open beak. The male too appeared, but after one look, he voiced loud disapproval of the strawberry box, and left, leaving the entire care of the young to the female. Ofttimes, as though to atone for his negligence, he would hover nearby in the trees and chirp encouragingly to her on her trips to and fro. She soon lost all fear of the unusual nest in which her babies rested so snugly, and often perched upon it as she fed them.

The tiny male showed salmon-pink feathers

on the shoulder of each wing, while the little female showed spots of sulphur-yellow on her wings. By the second day the young birds began to show fear of us as we would peep at them, hiding their eyes by drawing in their heads and pulling their wings slightly forward. By the third day they began to clamber bravely out upon the edge of the box, preparatory to going higher in the vines. After three or four attempts the little female went first, climbing up a foot or two, followed a few hours later by her brother, who after many false starts, and sudden cuddling down in the nest, finally succeeded in gaining a secure footing in the vines where he could survey the new land of delight. There was no tragic ending to this little incident, for we later heard the young birds in company with their parents high in the trees that bordered the street.

Another interesting experience was with a female Ruby-throated Hummingbird that my mother found perched in the morning-glory vines, apparently half-starved, for it could only thrust out its tongue and feebly squeak. Filling a teaspoon half full of sugar-sweetened water, I tilted it against the slender beak, and had the satisfaction of seeing the little mite eagerly drink it. I fed it about every ten or fifteen minutes, finally carrying it to a more shaded location out of reach of the hot sun. After an hour it had recovered so far that it was able to stretch its tiny feet and wings and fly away.

Every summer we have a large colony of Purple Martins, averaging from thirty to thirty-five adult birds, besides the numerous young; they occupy three large houses down on the edge of our vegetable garden, where they have plenty of room and freedom from crowded buildings.

One day in July, 1922, noticing a commotion among the birds over something on the ground, I hurried down expecting to find a cat with a young bird, but saw, to my amazement, a small snake, attempting to swallow a fully-feathered young Martin. Having nothing with which to kill the snake, and thinking only of rescuing the struggling bird whose head was fast in the mouth of the snake, I seized its outspread wings and tail and forcibly pulled it from the jaws of its

captor. Strange to say, the young bird did not seem much the worse for the harrowing experience. The snake, much to my regret, succeeded in escaping.

I have also seen small snakes carrying with ease half-grown frogs by the head and throat and making their way with sinuous ease through the tall grass to a place in which to devour their victim. Needless to say I always interfered in behalf of the frog.

One more item of interest, that of a flock of American Crossbills that appeared in our garden on November 8, 1922. There were eight or ten birds in the flock, all in brilliant new plumage, three or four of them males, the rest females. They fed exclusively on sunflower seeds, and were extremely tame while feeding, one pair allowing us to approach within six or seven feet of them. They made a pretty picture on that sombre November day.—ETHEL ALLIS NOTT, *Reedsburg, Wisconsin*.

Birds in Busy Chicago

How much it would add to our joy in the glad springtime if we all knew the birds we have with us—right here in busy Chicago—especially during migration.

In our neighbor's small yard which boasts of one syringa and a bridal wreath bush, also a few feet of hedge, and even in the dirt of the alley on the other side of our premises, and within a radius of a block, I have seen 62 different species of birds.

Last spring my bird trips were somewhat limited by the necessity of using crutches, so eyes and ears were keener and constantly on the alert for the birds about us.

A Wood Thrush sang two evenings in a near-by yard! What was my surprise while lying in the hammock on the porch to see a Warbler in the lower branches of a tree close to the porch railing—it proved to be that rare sprite, the Cerulean Warbler! On the 14th of September a Yellow Rail appeared in the middle of the street in front of our house and walked to the curb where it hid in a border of petunias!

The following is a list of the birds seen:

Evening Grosbeak, Wild Geese, Woodpeckers: Downy, Hairy, Red-headed; Flicker,

Sapsucker, Crow, Blue Jay, Junco, Bluebird, Robin; Sparrows: Song, Swamp, White-throated, White-crowned, Fox, Chipping; Grackle, Brown Creeper, Flycatcher: Phoebe, Pewee, Least, Yellow-bellied, Alder, Acadian; Kinglets: Golden-crowned, Ruby-crowned; Purple Martin, Catbird, Oriole, House Wren, Oven-bird; Thrushes: Hermit, Grey-cheeked, Olive-backed, Veery or Wilson's, Wood, Northern Water, Louisiana; American Bittern, Hummingbird, Night Hawk, Goldfinch, Scarlet Tanager, Black-billed Cuckoo; Vireos: Red-eyed, Philadelphia, Warbling; Nuthatches: White-breasted, Red-breasted; Warblers: Black and White, Yellow, Myrtle, Cape May, Canadian, Tennessee, Mourning, Cerulean, Redstart; Brown-Thrasher, Yellow Rail.—GLADYS FOWLER, *Chicago, Ill.*

Visitors in Our Garden

One of our chief thoughts in planning the garden at Brick House was to encourage the birds of this vicinity to come to us and make their homes in our shrubs and trees. We have placed many bird-houses in the trees and it has been interesting to note the many different kinds of birds that have settled with us in five years.

In the early spring of this year many Warblers and other migrants made us a visit on their way north.

We also saw a glorious Rose-breasted Grosbeak and a Purple Finch. They, too, went further north to make room for the busy, fussy, gurgily Jennie Wrens who came house-hunting and finally settled in all the little homes in the trees. But our most tried and trusted friend is the lovely Cardinal who comes each year, and calls and whistles and follows us when we are in the garden, flying from tree to tree. We have placed a bird's feeding-station within sight of the porch, and our proudest moment last year was the day father Cardinal brought his whole family to the stand for a picnic; mother and the four children all feeding while father perched on the overhanging dogwood and poured out his soul for fear we would not see his gorgeous red family.

The friendly Catbird has built her nest

very close to the porch, and when some one of us comes out on the porch, perches on the back of one of the chairs and sings her lovely song to tell us how much she likes us. One day while enjoying this delightful concert, I noticed a new bird around the flower-bed flying back and forth, and in and out of the porch, evidently trying to find a nesting-place. This went on for several days and at last I quietly followed her, and there in a lilac bush close to the sitting-room window, I saw the most beautiful little nest suspended like a basket from a branch, and snuggled in the nest a little olive-colored mother bird. I rushed to get the bird-book and found that a Red-eyed Vireo had settled with us. Needless to say, we protect her in every way and feel we are indeed honored. I must not fail to mention the Brown Thrashers who climb to the topmost top of the trees to sing, and who turn the Birds'-Bath into a veritable Beach Club Pool. Also the Cuckoo, the Song Sparrow (a most delightful and friendly companion), a pair of Crested Flycatchers who nest every year in the woods on the river bank, Bluebirds, Robins of course, Chipping Sparrows, the Goldfinches who ruin all my zinnias, and a brilliant Ruby-throated Hummingbird.

I assure you that all these little 'Mother West Wind' friends are very valuable to us. It is worth while encouraging them. We find that putting many kinds of bird-food on the feeding-stands, providing a bird-bath, eliminating English Sparrows and Starlings, and forbidding cats on the place, has all resulted in making our place a kind of Sanctuary, and the result in these last five years has been quite wonderful.—MRS. A. V. STOUT, *Red Bank, N. J.*

Unusual Nesting-Sites

At my country place at Stamford, Connecticut, we have disposed of cats and have no trouble in caring for rats and mice in ways that are effective.

Birds understand our love for them and nest close to the house. Two of them this year have chosen unusual nesting-sites.

Near the roof of the front porch I tacked up a shingle this spring as an invitation to the

Phoebe. It was taken in charge by a pair of Wrens which raised their brood there although a number of available bird-houses were near.

In a pine tree near the house, a Catbird built its nest at an elevation of about 20 feet above the ground, and liked the situation so well that it raised a second brood there, although I cannot determine if they used the original nest or built another near, because the branches are too thick to allow climbing for investigation. The choice of the pine tree by the Catbirds is peculiar because there is an abundance of shrubbery close at hand in which Catbirds have formerly built their nests.

On my property, about a half mile from the house, a Wood Duck built a nest and hatched eleven eggs on the top of a steep river bank under a tangled mass of grapevines, although a nesting-box for Wood Ducks was in a tree not far away. This is the first instance in which I have known a Wood Duck to make a nest on the ground, although I once found a Wood Duck nesting in a hole between the roots of a tree on a water-washed stream bank near Nassau, New York.—ROBERT T. MORRIS, *New York City.*

Loon Nests

Mr. R. J. Sim's paper on "The Common Loon," published in BIRD-LORE for May-June prompts me to send a description of three Loons' nests also found on Cranberry Lake, N. Y.

These nests are on different floating islands in the lake. The islands are a mass of *Chamaedaphne calyculata*, *Alnus incana*, *Sphagnum*, *Kalmia angustifolia* and *Sarracenia purpurea*, all interwoven so that the island rises and falls with the level of the lake.

The nests which I found had the usual two eggs, about three and a half by two and a quarter inches in size, elongated with one end more pointed than the other, a dark olive-brown, thinly spotted with blackish spots. One nest is a low, flat collection of sticks resting upon the shrubbery, just above the water-level. There was a slight depression in the center of the nest. It was interesting to note that some of the sticks, used in

building the nest, were aspen and had been cut by beavers, whose work can be seen on the western shore.—CLAIR A. BROWN, *Port Allegany, Pa.*

A Scoter Patient

On November 27, 1922, I was on the beach at Long Beach, California, and noticed a female Surf Scoter unable to fly and sitting in the edge of the water. I watched my chance, and when a big wave receded leaving it out on the sand, I ran and picked it up and found it to be soaking wet and shivering with cold. For several days the weather had been



SURF SCOTER

windy and rainy and I suppose the bird had been so buffeted about that it was worn out and therefore easily chilled.

I carried the Duck into the house and placed it by the stove, where it could dry and get warm. At first, it was so very weak that the only sign it made of life was to open its mouth when I picked it up, but, as its feathers dried and the warmth returned to its body, it became very antagonistic and would peck viciously at a hand held out to it.

The following day continued rainy so I kept the Duck in confinement, and, during the morning noticed another one in the same dilapidated condition on the beach. This was a male of the same species but, when I

attempted to capture it, it proved too lively for me and escaped into the water and I saw no more of it until the following morning, when its dead body lay at the foot of the sea-wall.

The next morning, the twenty-ninth, was bright and sunny so I took the Scoter from its cage and gave it back to the wild. The enclosed picture was taken just after it was released and before it realized its freedom. The Pacific Ocean was beating upon the beach about a hundred yards in the rear of the photographer, and as soon as the Duck discovered it was no longer a captive, there was a wild rush of pattering feet and it went speeding out over the water.—FRANK F. GANDER, *Long Beach, Calif.*

Fours—Right!

One of the most interesting birds of this section of the country is the Killdeer. Its clear-cut call is music to the ears of any lover of birds—unless, perchance it is the cause of one's awakening in the middle of a summer night. At such a time the feeling is one hard to describe. One listens to the call as the bird flies over until it is at last too far distant or the bird has found a place to rest.

On foot, few birds have as quick, graceful movements as the Killdeer. Quick as a flash to dart forward and as quick to come to a sudden stop, it is the trained soldier of the field-birds. Its movements may be clearly discerned in newly plowed, or in grain fields.

In the summer of 1919, I was assisting a farmer of western Crawford County (Pa.) in the preparation of some ground which was to be planted to wheat that year. One day shortly after the plowing and harrowing had been finished, I was driving across the field when I noticed a group of young Killdeer with an old one. At first I thought nothing of it, but with a second look, I noticed that they were acting very strangely. I stopped the team and watched the birds. There were seven or eight (I believe there were seven but have not the record of that) young ones about half-grown with one old bird. At first they were apparently skipping around aimlessly. Soon the old one gave a call. Immediately, there was started a drill which

would put many a crack squad to shame. The young ones separated quickly into two groups and formed in two lines facing each other at a distance of about two feet with intervals, between individuals, of five or six inches. The old bird took a position ten or twelve inches from the ends of the lines and facing them. A second call from the old Killdeer and forward the two lines moved with precision and uniformity; the individuals passed alternately; and each line with a right-about-face of each individual came into line where the other line had been previously. Again the lines were facing each other. This was repeated three or four times before I left. This exhibition took place within fifteen yards of where I sat.

Knowing the quickness and accuracy of movement of the Killdeer, I have wondered many a time if this were not a part of the regular training of the young to fit them for just such activity and precision.—W. EDWIN COON, *Erie, Pa.*

A Grouse Refugee

One fall, just after the hunting season opened and hunters were after the few scattered bunches of Grouse and Prairie Chicken in the neighborhood, a much-bewildered young Grouse flew into our yard seeking protection from some foe which nature hadn't warned her against. She did not seem to realize that it was man who was causing such disaster in her neighborhood when she came to us for protection, for she acted as though she was perfectly safe in our presence. She was somewhat timid at first but not so wild that she would fly to avoid a person, and it was not long before she would come for grain thrown for her. She was unusually fond of apples and soon ate from one's hand.

She was never confined in any way yet she stayed with us winter and summer as long as she lived.

She mingled with the domestic chickens, more or less, during the day but would never go to roost with them at night. She selected an open shed for her roosting-place during the winter and, as the days grew warmer in the spring, she would sleep under some bush nearby.

She made a nest in the orchard and laid

a setting of eggs which proved not to be fertile. After sitting on them for about a month, she gave up the task and went about as usual.

She would often take long journeys into the hills but would never fail to come back in the evening to sleep some place nearby. One day, about a year after she arrived, while on one of these journeys, she was attacked by some predatory animal or bird of prey and badly wounded. She came in that evening very lame and unable to fly. It seems strange that she could escape after being so badly wounded. She stayed very close after this and in about two weeks she died.—RAE T. HADZOR, *Norris, Montana.*

A Trapped Woodpecker

Driving along a country road today, I came upon a young Red-headed Woodpecker in a serious predicament. It was clinging to a steel fence-post and I noticed that it was fluttering wildly and struggling to get away, although it was not until I came close that I saw where the trouble lay. The post was of the common hollow type, with a very narrow crack running from top to bottom where the edges were drawn together to make the circular post. At the top of the post this crack was somewhat larger, and in some way one toe of the Woodpecker's foot had slipped down the crack. The farther down the toe slipped, the tighter it became; no trap could have held it more securely. By grasping the bird firmly and pulling its foot upward, I was able to extricate the trapped toe. The bird squealed and grabbed my finger with its sharp beak, but in a moment it was flying away, doubtless none the worse except for its bleeding foot. These steel posts are quite extensively used in Iowa and I am wondering if such accidents are of frequent occurrence. My Woodpecker was a this year's bird; though in immature plumage it was as large as an adult. Quite a number of Red-headed Woodpeckers fall victims of passing motors. One occasionally sees their dead bodies lying along the highways where they have been struck by some fast-moving car. I believe that other native birds are seldom killed in this way.—FRED J. PIERCE, *Winthrop, Iowa.*

Yellow-headed Hummers

I was much interested last summer to see a female Hummingbird on our Bee Balm, with a tiny light yellow patch on her head. This summer we had the Ruby-throated with the same little yellow patch but the female had none this year. I had never seen anything like it on a Hummingbird before and wondered if it was unusual. Have any of the BIRD-LORE readers seen anything of the kind?—IDA M. WILCOX, *Berlin, Connecticut*.

[The yellow color referred to is caused by the presence of pollen from flowers the Hummer has visited.—Ed.]

Murder of Sparrow by Grackles

The following account of an attack on a House Sparrow by Grackles was sent to me by Dr. Harold A. Innis; and it raises questions which you or your readers may be able to answer. Do such attacks take place frequently? Are they prompted by 'race-hatred' between the species or by some action of an individual Sparrow? And are they usually carried to a fatal termination? Personally, I have not observed fighting between Grackles and House Sparrows; but I have heard of another killing, similar to this, taking place in this city.

"...Last Monday at about 9:30 in the park behind the public library we actually saw three Blackbirds overtake and kill a Sparrow. It was all done so quickly and with such vehemence that we scarcely knew what had happened.... One more brazen than the rest continued to stab the little bird long after it had been dead.... Sincerely, Harold A. Innis, University of Toronto, Toronto, Canada, July 10, 1923."—R. OWEN MERRIMAN, *Hamilton, Can.*

Making Friends with a Tanager

This year a pair of Scarlet Tanagers is much in evidence about our place—the flash of color in the trees is pleasing indeed. Early this summer the brilliant male was first seen eating winged ants swarming from an old stump. He allowed me to approach him quite closely while his mate warned him of his danger and scolded me roundly. He

seemed too busy to listen and ate his fill before leaving.

Saturday, July 7, while using the garden hose to freshen some drooping plants, the male Tanager flew within two feet of me, and seemed quite friendly.

Sunday morning on the terrace in front of my house, I saw the male Tanager on a branch of a dogwood, about ten feet from the house. He was there a few moments when he flew to a small oak five or six feet farther away, so I moved to a stone wall, placing my hand upon it. In doing so, I saw a winged ant approaching, and knowing the Tanager's fondness for them hoped he would see it and come. The thought had scarcely come to my mind when he flew to the dogwood, thence to the wall by my side, and without any hesitation picked up the ant which had crawled on my hand, then hopping on my hand and after looking at me for five or more seconds, flew to a rock three or four feet away where he stayed a minute or so, and, with the ant still in his bill, he flew to his home across the street.—CHARLES D. HAINES, *Pelham, N. Y.*

Catbird Notes

I picked up from the ground last week, a young Catbird sick with a strange malady. Its body was swollen, and its skin so tight that it looked like a toy balloon. The bird appeared to be dying and I pricked the outer skin with a needle, letting the gas out; it revived and called for food. I fed it a crushed blackberry and it appeared quite natural. Then I put it into an old nest, and put the nest in a basket near the tree I found it under. In a few moments the mother bird was feeding it. In an hour the gas had formed again. So I operated a second time and satisfactory results followed. The mother bird became so tame that she stopped scolding me when she saw me coming to the bird, and sat quite near—always coming to the edge of the basket when I left, to see what had been done. After a day, spent anxiously watching the young bird and relieving it by puncturing the skin about every hour, night came on, threatening rain so I brought the basket into the house. At daylight I heard

the mother bird calling for her bird and I took the basket out to her. She flew down immediately and looked at the poor little dying bird, but did not feed it. For several hours the sufferer was barely alive. She did not attempt to feed it but never left it, sometimes she flew up on the fence and seemed to be asking "What can we do?" Do you know what was the trouble with this bird, and what could have been done for it?

This pair of Catbirds had built their nest in our syringa bush, using string and rags that I put out for their use. I located the nest by watching them carry the white rags into the bush. This little invalid bird was their second family this summer. After they were through with the nest, I took it down and used it at our Audubon Society meeting, the subject for August being 'Nest Construction.' I was taking it apart before the class, carefully undoing the birds' work, and telling them that the white rags were an old handkerchief that I had torn up, when I came to a layer of paper, matted and packed tightly together. Imagine my surprise and amusement to find a red label from a can of salmon, with the word Salmon (my name) plastered around the paper partition of that nest! It was printed in gold letters, in an oval of gold on red paper, and looked like it might have been a door plate!—MRS. MARY SALMON, *Tarkio, Missouri*.

A Wood Thrush Story

Our first glimpse of him would have led us to believe him a very pugnacious bird. He perched on the edge of the bird-bath pan and showed a desire to bathe, but above him, on top of the hydrant, was a lordly Blue Jay, whose attitude threatened a quick swoop upon the would-be bather. He was not to be frightened, however; he would hurriedly dip his head into the water and give it a flirt, then raising it, open his beak wide at the Blue Jay, who only cocked his head knowingly and mischievously. Down again into the water, another hurried flirt, and a quick return to the defensive attitude. The little performance was funny to witness, and continued until the Jay flew off and left the valiant brown bird to his bath. Knowing the Blue

Jay's propensity for scaring birds smaller than he, we concluded he was at his regular trick of teasing, and that he merely tired of his pastime and flew away, rather than that he was at all scared by his victim.

Being woefully ignorant of the names of birds, the writer consulted a 'Bird-Book' to determine who this little brown fellow might be. It was easy, from description and illustration to identify him as the Wood Thrush, and we were destined to see much of him in the next few weeks. Day after day, he sat on a fence-post near the screen-porch, singing loudly his few notes of song; what the song lacked in notes, he made up in volume and repetition. It was not until the little birds were hatched that we discovered his mate. The nest was built low down in an apple tree,—a fine, compact little piece of work,—containing four hungry little Thrushes. The mother bird was most trustful, and fed them when we stood very close by; she seemed not to resent our presence in the least. All went well, the little birds grew apace, but sad to relate, we live in a cat-infested neighborhood. One morning, very early, a big white cat was seen in the tree, and at seven, when noting the birds' distressed cries, we went to look, we found the nest on the ground, quite empty, and no trace of the little ones. Naturally, we supposed the cat had enjoyed a bountiful breakfast of four little Thrushes, and mentally heaped anathema upon that cat and all cats, and vainly regretted the trustfulness of the birds in building their nest in such an accessible place.

But that was not the end of the story; the Thrushes wasted no time in mourning their loss, but set to work immediately to build another nest,—this time on a high limb of an immense oak that stood against the house. It was placed in a way that would cause one to believe the birds had learned a lesson from the fate of their little family, for this nest was surely in a safe place, and it was finished in two days, with Mrs. Thrush sitting again.

About this time, I noticed that Mr. Thrush was feeding a small bird, which followed him quite persistently and peeped continuously. The little fellow could fly fairly well, and from that day on was fed and cared for by Father Thrush. We now witnessed the

pretty sight of Mrs. Thrush sitting on her nest, and the little one she had already raised perching beside her on the edge of the nest. Mostly however, he followed the male Thrush about, and chirped for food. They often sat on the fence,—father and child,—Mr. Thrush singing loudly, and the little one sitting close to him. The young bird was not brown like his parents, nor could I discern any flecks on his breast; he was instead rather a drab color, and unless closely observed might have been taken for a Sparrow of some species, for he seemed not much larger than the House Sparrow. Could it have been a young Cowbird?

We watched these birds with interest for a week, and hoped to see another brood, more successful than the first one. But it was not to be. One Sunday morning, no Wood Thrushes were to be seen; we missed the clear, ringing song and the youngster's insistent chirp. The nest appeared to be forsaken. We could not solve the problem, for no cat could reach the nest, and surely no cat could get all three birds since they were all so active. We were puzzled until our good neighbor reported finding a dead Wood Thrush in the back yard—not eaten or trampled—just dead. We concluded then that the little mother had succumbed, possibly because of confining herself too long to the nest, or perhaps she was afflicted with mites from too prolonged sitting. At any rate, immediately upon her demise, her mate and little one disappeared, and we felt we had witnessed one more of the tragedies such as enter into the lives of the birds.

The empty nest hung on the limb until the next spring, with a melancholy piece of white rag suspended from it which waved in the breezes, then other birds tore the nest to

pieces, using the materials for their own homes.—ALTA I. CANNON, *Carthage, Mo.*

Our Robin Family

Early in the spring, a Robin and his mate built a nest in the corner of the fence, by our garden. It seemed strange that they should select this frequented spot, but they showed no fear and commenced to build their nest just a few days before a heavy rainfall which nearly washed away their home.

As soon as the storm was over, the birds began to repair their nest and they soon had things in shape again. Then Mrs. Robin laid three eggs and commenced to sit. At first she was nervous, as the children and all the family passed the corner many times a day, but she soon became accustomed to us.

After the eggs hatched we had more cold weather with a northwest wind and some snow, but the Robins took turns in keeping their little ones warm by covering them with their wings.

Late one evening Father Robin watched me poking around in the garden with a stick. I thought he wanted some worms so I dug a few and took them to the mother bird. She took each one as I handed it to her, and, like a sensible person, fed them to her hungry babies. My children were delighted when I told them about it, and one and all volunteered to dig worms to feed their bird-friends.

So they went on with the care of them, and the young birds grew very rapidly, for they had plenty to eat. Our oldest daughter was particularly attentive to them, and one day the mother Robin perched on her hand while she fed worms to the little ones. This was a wonderful experience which will always be sweet in our memories.—M. G. CRUMB, *Royalston, Mass.*

THE SEASON

Edited by J. T. NICHOLS

XXXIX. June 15 to August 15, 1923

BOSTON REGION.—We have had a cool summer with moderate rainfall. There has been no real drought, consequently the vegetation is fresh and green (often the countryside in August has a parched and wilted appearance) and the summer and early autumn flowers have opened little if any after their normal dates.

At the beginning of this period great numbers of fledgling birds are on the wing, and on all sides their various, characteristic notes may be heard as they proclaim their whereabouts to their parents. The young of some of the common species appear almost simultaneously over a whole township. For example, wherever one goes on a certain day about the middle of June, he hears for the first time the 'cricket note' of the fledgling Chipping Sparrow and a little later in the month, he will hear everywhere in the scrub-growth the food-call of the young Chestnut-sided Warblers.

Then in mid-summer comes the long silent period of moult,

"When all the birds are faint with
the hot sun,
And hide in cooling trees."

But long before the end of summer the moult is over and a time of great activity follows; the birds, in spite of the summer weather, suggest by their behavior the coming of autumn. It is evident that they are moving away from their breeding-grounds; notes are heard in the night from birds flying overhead—more and more notes as the season advances, in the early morning too there is an increased chipping from birds about our door-yards,—fine sibilant 'chirps' such as we did not hear in June, and in the dawn of August mornings the 'wink' note comes from small flocks of Bobolinks flying south. Sometimes in July a new species is noted,—a Water Thrush or Black-throated Blue Warbler, birds which may have bred only a few miles to the north.

In the woods and even in gardens and orchards one may notice at this time the

wandering Black and White Warblers, the nucleus of the autumn Warbler bands, and on lawns and in weedy fields the Chipping Sparrows gather in families and flocks, the first intimation of the great assemblages of Sparrows in October.

Along the sea-coast, at the close of the summer period the migration is in full swing; for a month thousands of shore-birds—Least and Semipalmated Sandpipers and Ring-necked Plovers—have been streaming past, and most of the Dowitchers (an early and rarer migrant) have already gone.

Mr. Forbush reports Common Terns as breeding in New England in unusually large numbers and a very encouraging increase of breeding Piping Plovers.

Chimney Swifts were below normal numbers this summer and no flocks of large size of migrating Swifts have been noted this month (August). The Short-billed Marsh Wren and the House Wren have continued to increase as summer residents here.—WINSOR M. TYLER, *Lexington, Mass.*

NEW YORK REGION.—There is strong evidence at hand that the White-throated Sparrow bred this year in northern New Jersey. From July 14 to 31, R. H. Howland observed one of this species in first winter plumage almost daily about his home in Upper Montclair, New Jersey. On July 19, he showed this accommodating bird to T. D. Carter, who also was privileged to examine it satisfactorily at close range. R. N. Baldwin reports a White-throated Sparrow heard singing in a swamp at Harrington, N. J., on the mornings of June 13, 14 and 15.

Migration of land-birds became perceptible in late July, as evidenced by the appearance of the Water Thrush at Botanical Gardens, July 29 (F. F. Houghton). There was an increased movement on clear, autumnlike days, which came in mid-August, but aside from August 14, no flight of moment. Griscom and Boulton report a rare Mourning Warbler, Central Park, August 14. The

Tennessee Warbler at Riverdale, August 9 (Griscom) is very early. On the same date the Yellow-bellied Flycatcher was observed in Central Park (Griscom). At Bear Fort, north-western New Jersey, the Yellow-bellied Flycatcher was observed August 14 and Olive-sided Flycatcher August 19 (W. D. W. Miller).

On August 10 Griscom and Boulton observed at least a dozen adult Roseate Terns at Long Beach, a species very seldom noted so far west on Long Island. On August 12, 4 Caspian Terns are reported at Barnegat Inlet, N. J. (C. A. Urner). A small number of Bonaparte's Gulls appear to have spent the summer. Several Gulls between Perth Amboy and South Amboy, June 16, were so identified (H. Thurston), and 15 to 20 Bonaparte's Gulls reported from the same locality July 28, the same number from Long Beach, N. J., in two flocks July 29 (Urner and Boulton).

Notable summer shore-birds at Jones Beach, Long Island, are a Hudsonian Curlew and two Sanderlings, June 24 (Griscom, Boulton and Urner). The Curlew would seem to be an early south-bound bird, the Sanderlings late north-bound or summering birds. The marshes along the south shore of Long Island have been unusually dry during the first half of the presence of south-bound transient shore-birds in this latitude. With less than the usual available feeding-ground there have been few Pectoral Sandpipers, and the Lesser Yellowlegs apparently far below its average numbers. The Least Sandpiper at Mastic was two weeks late, not observed until July 15. The flight of Semipalmated Sandpipers on the other hand, westward low over the waters of the South Bay in late July, which has been scant for several years, was as extensive as formerly. Numbers of the Hudsonian Curlew are estimated as 50 per cent greater, and of the Willet 5 times greater than they averaged for the ten-year period, 1911 to 1920.

Mastic, July 21, a date which should mark the height of Curlew migration, 24 individuals in three flocks were counted passing east to west, during 1½ hours' observation at a point on their line of flight. Similarly, in 2½ hours on August 4, 14 Willet were counted passing west to east, in three flocks.

We base an hypothesis that our fall migration Willet are from the Gulf Coast, on their being larger than the Virginia breeding bird, and on their direction of flight being opposite to that of other shore-birds.

On June 17, at Wyanokie, N. J., Carter and Howland found a male Blue-wing and female Golden-wing Warbler mated, banded this female and four of her young, recently out of the nest. This brood was located only a mile or so from the nest of a male Brewster's Warbler (48,866) mated with a Golden-wing, but in dissimilar territory from the wood glades where that was placed, namely, in overgrown pasture-land with small cedars and sumack, flanked with a birch thicket at the edge of a wooded hillside. At Wyanokie, on June 30, Boulton and Carter observed a male Golden-wing feeding a young Lawrence's Warbler very close to the above-mentioned Brewster's Warbler nesting-site; an interesting point, as instances with which we are familiar for breeding Lawrence's Warblers, have been in Blue-wing, not Golden-wing territory. On July 14, Carter noted one or more young Brewster's Warblers in a scattered mixed flock of Blue-winged, a few Golden-winged and other Warblers at Boonton, N. J.—J. T. NICHOLS, *New York, N. Y.*

PHILADELPHIA REGION.—Weather conditions for the period under consideration average normal, the very dry spell of early summer being equalized by almost daily showers during late July and early August.

It is the sea coast that holds the attention of the bird student at this time of the year, birds apparently being much more common and certainly more easily observed than at inland points.

During a five-day trip in and about Cape May, N. J. (June 18 to 22) eighty species were noted. Of the breeding birds, a nest and four young of the Savannah Sparrow, June 20 was of considerable interest. This is perhaps the southern limit of this bird's breeding-range along the Atlantic coast.

Non-breeding water fowl observed:—Cape May, N. J., June 18, Loon, 1; Old Squaw, 1; Scoter, 10. Grassy Sound, Cape May County, June 20, White-winged Scoter, 2; Red-breasted Merganser, 6.

Migrant or non-breeding shore-birds:—Atlantic City, N. J., June 17, Least Sandpiper, 20; Knot, 30; Semipalmated Plover, 1; Turnstone, 2. Cape May, N. J., June 19, Semipalmated Sandpiper, 6; Yellowlegs, 1. Grassy Sound, June 20, Red-backed Sandpiper, 2; Least Sandpiper, 3; Sanderling, 1; Knot, 5; Black-bellied Plover, 2; Turnstone, 4. Same locality, July 8, Least Sandpiper, 2; Sanderling, 2; Semipalmated Plover, 1.

Compared to this scattering of early summer shore-birds, the results of two later trips are given. Atlantic City, July 29, Pectoral Sandpiper, 1; Least and Semipalmated Sandpiper, 50; Yellow-legs, 10; Hudsonian Curlew, 8; Dowitcher, 200; Sanderling, 10; Knot, 30; Semipalmated Plover, 6; Turnstone, 5. Grassy Sound, August 5, Least and Semipalmated Sandpiper, 200; Yellow-legs, 10; Willet (Western), 8; Hudsonian Curlew, 25; Dowitcher, 10; Semipalmated Plover, 15; Turnstone, 12.

It seems quite probable that with one or two exceptions the shore-birds found on the coast during the early summer (scattered individuals can be found from mid-June to mid-July) are non-breeding birds. The water-fowl certainly are, why not the shore-birds?

Nesting sea-birds of the New Jersey coast appear to be holding their own. In the case of the Laughing Gull and Common Tern, they are gradually increasing. Three colonies last year were found to contain both Common Terns and Skimmers. This year, they were almost deserted. Searching about for the cause, it might be attributed to three reasons—rats, high tides and persistent robbing of the nests. Rat-tracks were found quite numerous in one colony. Forty birds were found in a Least Tern colony which last year contained about thirty. Eight nests were found, two with young. The largest colony of sea-birds discovered this summer was made up of about 200 Common Terns and 50 Black Skimmers. A set of Tern's eggs in this colony would have made the heart of an oölogist thrill with delight. These eggs were plain robin's-egg blue except one which had very faint spots. They differed so widely from eggs nearby that a careful watch was kept on the nest until a Tern settled on it. On a later visit to this colony 100 young Terns and 12

young Skimmers were noted. At this time (August 5) many of the nests contained eggs.

Other records of interest—Riverside, N. J., June 16, Black Terns (Yoder and Gaede). Stone Harbor, N. J., June 20, Roseate Tern (Potter).

With the able assistance of Mr. John D. Carter, an intensive study of the birds of the Mt. Pocono region was made (June 23 to 28). Seventy-six species were recorded. Among the most interesting being Alder and Yellow-bellied Flycatchers (nests of both with eggs). Siskin, Myrtle Warbler (feeding young), Mourning Warbler and Golden-crowned Kinglet (nest with young). Several Ruffed Grouse with healthy broods indicated a good breeding-season.

Comparing the Pocono birds with those found at Cape May, thirty-three not found in the coast regions were observed in the mountains. This made a list of 113 birds during a ten-day period in the latter half of June, all within a comparatively short distance from Philadelphia.—JULIAN K. POTTER, *Camden, N. J.*

WASHINGTON REGION.—During the months of June and July, 1923, the bird observers about Washington, D. C., had little of special interest to report. The month of June was notable for two periods of unusually hot weather for the time of year. One of these began on the very first day of the month and had naturally the effect of starting north what few transients still remained. This was, therefore, not a good season for obtaining late records of spring migrants.

Apparently the heat had little effect on the singing of birds, except to silence them earlier in the day than during cool weather. The song period of many species, such as the Wood Thrush, Song Sparrow, Robin, Red-eyed Vireo, Cardinal, Carolina Wren, Tufted Titmouse, and others, continued well toward the last of July, as is usual.

On July 3, 4, and 7, a pair of Rough-winged Swallows, which had evidently reared their young along Rock Creek in the Zoölogical Park, led their brood into the built-up portion of the city surrounding, where in the yard of a house not far from the writer's home they marshaled the young on a tele-

phone wire, brought food, and taught them to care for themselves.

The Vesper Sparrow, which is in this vicinity a rare and local summer resident, was found on June 8 near Hunting Creek, Virginia, by Miss Katharine H. Stuart. It is also usually to be found northeast of town in the country between the city of Washington and Laurel, Maryland.

The American Bittern, which breeds probably more or less regularly, but is not often observed in summer on account of its retiring habits in the marshes where it lives, was seen this year by Miss Stuart about the first of July in a marsh near Four-Mile Run, Virginia, which is only a short distance from the city of Washington. At the same time she found there two Scaup Ducks, probably the Greater Scaup, which date is fully a month later than either the Greater Scaup or the Lesser Scaup has ever been noted in the vicinity of Washington, with the single exception that the former is reported as having once nested in this region; otherwise the latest date for the Greater Scaup is May 27, 1906, and for the Lesser Scaup, June 1, 1913. Whether the pair of birds seen this year had nested near Four-Mile Run was not determinable.

Purple Martins have been seen regularly in the city of Washington and its environs during the months of June and July, but local ornithologists have so far not been able to locate a roost in the city of Washington, as has been the case here for a number of years past. The birds, however, are doubtless roosting in at least small numbers at some point in the city; but since this roost is usually changed from year to year, and sometimes changed once or twice during the same season, it has probably this summer simply escaped observation.—HARRY C. OBERHOLSER, *Biological Survey, Washington, D. C.*

OVERLIN (OHIO) REGION.—The summer has been warm with periods of hot and cool weather. The dryness has been offset by frequent showers which, however, were generally of such short duration as to do little good. Spells of dry weather forced the birds to seek out every little pool of water so that bird-baths were seldom devoid of life.

The flocking of the Bronzed Grackles has

been interesting this summer. About the middle of June the Grackles sallied noisily around in groups of three, four, and five. They were so very noisy at this time that they won the condemnation of many people. They were unusually numerous and therefore were constantly to be seen and heard. During July these small groups began to band together, and by the end of the month could be observed at dusk in flocks of hundreds flying in a southeastwardly direction over town to their roost. By the middle of August they were less frequently seen and then mainly in large flocks so that their presence was not so obtrusive and obnoxious.

Probably the most interesting record of the summer is that of seven Mockingbirds observed on June 21. They were all found resting on the telephone wires between Oberlin and Kipton, a distance of about five miles. As they were not reported again during the summer, it is a question if they remained to breed.

By July 1 nearly all the summer birds had nests containing young, and probably because of the cool, spring-like weather were in full song. All the nesting birds have been unusually well represented this season. The Upland Plover and Migrant Shrike have been common all summer; Catbirds seemed especially numerous on July 8. The Yellow-billed Cuckoo was heard almost daily, both in town and in the woods, but its cousin, the Black-billed, was found only a couple of times. Cedar Waxwings have been about continually. Purple Martins and Scarlet Tanagers have been common. The Veery was noted once during the summer, evidently nesting. Traill's Flycatchers were to be found along streams and damp places in nearly all the large woods. The Crested Flycatcher was likewise quite numerous. Kingbirds and Red-headed Woodpeckers were very numerous on July 29, showing a favorable nesting. A Grebe, probably the Pied-billed was reported from the Water-Works reservoir within the village limits of Oberlin during July. Among the Warblers, the Northern Yellow-throats have been the most prominent, followed in order by Yellow Warblers, Ovenbirds, Redstarts, Blue-winged Warblers, Louisiana Waterthrushes, and Cerulean Warblers, while the Black and

White Warbler was noted once on July 19. The Black-throated Green Warbler, an unusual nester, has also been noted (C. T. Robinson).

In regard to the fall migration, no migrant warblers have as yet made their appearance. A single Nighthawk was observed on August 14 winging its way slowly southward, which, with the flocking of many species and the restlessness manifest among the Swallows, indicates that the movement will soon be in full sway.—S. CHAS. KENDEIGH, *Oberlin, Ohio*.

CHICAGO REGION.—After the cool spring the early summer found us with a bird population which most observers estimated as considerably lower than normal. Dry weather prevailed during June and July, but the first week of August was notable for the number and severity of its storms.

Both nesting and moulting seems to have been somewhat delayed this year, but early migration southward has progressed normally.

Among the most interesting breeding records for the region are those made by Mr. Benjamin T. Gault. He has made many visits to the Calumet district, where he has had a colony of Black Terns under observation. He reports a most successful year for this colony. Twelve nests were found and watched. On his visits of June 27 and 29, the young birds were found to be well matured. They had left the nests but remained in their vicinity. Mr. Gault found two pairs of Wilson's Phalaropes at this time. The birds were evidently nesting. These birds were formerly considered common as breeders and summer residents in the Calumet region, but of late years they have not been frequently reported.

At Hyde Lake on June 27, Mr. Gault found Yellowlegs present, a flock of six being seen. These may have been migrants from the north, but the exceptionally early date for such an occurrence would indicate that they might be non-breeding birds summering south of the nesting-range. From Glen Ellyn, Mr. Gault reports Upland Plover young in the downy plumage on June 30.

The writer was somewhat surprised on July 1, when he observed an adult male Yellow-bellied Sapsucker in Jackson Park.

Mr. Gault, with C. J. Hunt and H. L. Fulton, again visited the Calumet district on July 22, reporting a Dowitcher, and flocks of Least and Semipalmated Sandpipers and Yellowlegs.

In Lincoln Park on August 9, the writer saw Common Terns, Pectoral and Semipalmated Sandpipers and Semipalmated Plovers. The presence of a Grinnell's Waterthrush would indicate that Warbler migration had begun.

J. D. Watson and the writer visited Hyde Lake on August 10 and the Dune region near Tremont, Ind. on August 12. We found Pectoral, Least and Semipalmated Sandpipers in fair numbers. One large flock was noted at Hyde Lake. Several Sanderlings were seen there and a few Yellowlegs and Solitaries. Killdeer were unaccountably absent. No shore-birds were found in the Dunes. Moulting was evidently in progress and the birds were very quiet. But little of interest was seen. One Henslow's Sparrow was found near Mineral Springs where this bird has been found breeding.—GEORGE PORTER LEWIS, *Chairman Report Committee, Chicago Ornithological Society*.

MINNESOTA REGION.—The weather during the last half of June and the first three weeks of July was excessively hot with, for the most part, unusually warm nights. The humidity was also often high which added to the oppressiveness. Afternoon temperatures of 80° to 90° were reached almost daily and not infrequently the latter figure was exceeded. The maximum was reached on July 9, when, after a night of a minimum of 70°, the mercury rose to 97° in the afternoon—the hottest night and day of the season. On July 24 there came a change to cooler weather with morning and evening temperatures in the sixties and mostly clear and pleasant days.

About the close of the third week of June there were two or three days of severe, recurring storms accompanied by heavy downpours of rain over most of the state. Since that time the rainfall has not been up to normal and the subsidence of the water-level in the lakes, ponds, marshes and streams of the entire state, referred to in the last chapter, has steadily progressed. In some cases

shallow lakes and ponds have completely disappeared, marshes have become dry and the lowered water-level in many of the larger lakes has encouraged a dense growth of aquatic plants and algae in the shallower bays and along the shores. Many smaller streams are either entirely dry or choked with vegetation.

The deficient moisture and excessive heat have seriously affected small grain and other crops over considerable areas. However, the wild berry yield has been abundant especially in the blueberry regions in the northern part of the state. Last year the basswood or linden trees 'rested' quite generally hereabouts but this year they flowered and fruited profusely. Apple and plum trees in the vicinity of Minneapolis are heavily loaded with fruit.

Circumstances interfered this year with keeping a summer nature calendar, so only the following fragmentary notes are available.

On June 16, a few exceptionally early white water lilies were seen in bloom near Minneapolis. It is usually not until about the Fourth of July that they are to be found commonly in the southern half of the state.

Shortly after the middle of June a trip was made by the writer to the Crystal Bay region on the north side of Lake Minnetonka, in the Minnetonka Game Refuge, to investigate, at the request of Mr. Avery, State Game and Fish Commissioner, certain complaints that had been made that the Ring-necked Pheasants were injuring crops in that locality. It was stated by several residents that this bird was doing much damage to sprouting corn and garden vegetables. The Pheasants have increased greatly of late in a number of places in the state and in this particular locality they are now so numerous that in the spring the crowing of the cocks can be heard at short intervals all day long. During the breeding-season they are to be found chiefly in willow-grown marshes and similar lowlands. A tract of six acres planted to corn was visited. This field was not fenced and was almost entirely surrounded by swamp and meadow covered with bushes and rank vegetation—the natural breeding haunts of the Pheasants. A first planting of corn had been entirely eaten by the birds. They en-

tered the field from all sides and dug up with their bills the sprouting kernels as soon as the blades appeared above the surface. At the time of my visit (June 16) a second planting was about one-third gone and a little later the entire field was cleared a second time. This ended the attempt to raise corn at this place. Another farmer not far distant reported a similar occurrence. The gardener on the first farm said that at five o'clock in the morning a few days previous to my visit he had counted 30 Pheasants in the vegetable garden including a hen with a large covey of young. They made a clean sweep of the peas, beans and melons as fast as they came up. This garden bordered a willow-grown marsh regularly used by the Pheasants as a nesting-place. Adjoining this garden was another garden similarly located that had suffered in the same way, two or three plantings being necessary to secure a successful crop. Later in the season while corn is still 'in the milk' the Pheasants sometimes feed upon the soft kernels after tearing open the ears after the manner of the Blackbirds, Crows and Raccoons. Cornfields and gardens on the uplands distant from these marshes showed no damage. Only one other complaint, from another part of the state, has come to the Commissioner thus far.

The above were the findings in this limited investigation and while the damage inflicted was annoying and discouraging to those who suffered, it does not seem that they should constitute a serious arraignment against this valuable and beautiful bird that is only now becoming well established after so much labor and expense. Rather it would seem attention is called to the wisdom of planting such crops as they select for food at a sufficient distance from the birds' chosen haunts. The Pheasant is too important an acquisition to our depleted game-bird list to be subjected to adverse criticism unless the charges against it should be widespread and irremediable. Thus far there has been no open season in Minnesota but when shooting is permitted there will undoubtedly be a great diminution in their ranks as they are now easily found and are not at all wild.

From June 20 to July 6 Mr. Kilgore and the writer were in Itasca County, in the ex-

trene northern part of the state, listing the breeding birds of that region but especially making a search for the nest of the Evening Grosbeak. For several years past evidence had been accumulating that this Grosbeak spends the summer in several localities up near the Canadian boundary, but no one has reported finding the nest in this state thus far. We found a number of the birds without difficulty but after a thorough and systematic examination of the dense and trackless wilderness in which they apparently were nesting, we failed to locate the colony.

Another still more exhaustive search was made later by Mr. Kilgore and Prof. N. L. Huff without result. On our arrival June 20, the birds were apparently not mated, as they were travelling in little parties, unequal as to sex. About July 1, they had seemingly mated and were seen thereafter mostly in pairs. We trapped and banded twelve birds and examination indicated that they were incubating. The birds had bare bellies and thickened abdominal skin. Where they came from and where they went was the problem that remained unsolved. We found them principally at two places some four miles apart where they were eating the earth about the doorsteps and porches of a farmhouse and a summer cottage. They came at first in little flocks and later on in pairs at intervals all through the day, remaining only long enough to dig up and swallow a stomachful of the earth. Examination of the earth showed that it was strongly impregnated with *salt* which unquestionably was what attracted the birds to these spots. They were always very eager and very greedy to begin eating when they arrived as though they could not wait another minute. The origin of this salt was made plain when it was found that the occupants of these houses made ice-cream frequently and often spilled or threw out the brine on the ground nearby. In one instance the salting of fish was partly responsible. The Grosbeaks were very tame and unsuspicious and when a pull-string trap was set over the saltiest spot they readily went under it without other inducement. They were often accompanied by Purple Finches which also ate the salty earth and Miss Carolyn Jensen, of Mound, states that last year a flock of Pine

Siskins visited daily one of these 'salt-licks.' It is recorded by Harold Baynes that both species of American Crossbills are fond of salt. There is a well-established belief that salt is injurious to birds, but in the case of these Finches at least this is clearly an error.

Mr. Bernard Bailey, of Elk River, writes that he has seen more Green Herons the past summer than he had seen in his whole experience before. They were present in considerable numbers and evidently nesting in some densely wooded and flooded islands in the Mississippi River a short distance above Elk River. More of these birds than usual have also been seen about Minneapolis. This little Heron was formerly rather scarce hereabouts and the seeing of one was a matter of special comment.

Mrs. Hodson, of Anoka, reported that by the middle of July the Bobolinks in that locality were flocking and that the adults were showing evidence of moulting. A flock of 30 was seen on July 19.

On July 27, a single Eave Swallow's nest was seen by the writer on a barn some 20 miles south of Minneapolis in Scott County. The birds were feeding young in the nest. This is the first time that I have seen this Swallow in many years. Mrs. A. E. Cook, of Minneapolis, reported a small colony near Chanhassan, Carver County, two or three years ago and Mr. Lester R. Badger, of Minneapolis, has found a few nesting at Frontenac in Goodhue County, but it has largely disappeared from the state, where it was a common nesting-bird many years ago.

On August 6, a visit to the preserve of the Long Meadow Gun Club, along the Minnesota River ten miles south of Minneapolis, revealed the presence of many Ducks that had bred there. A flock of 50 Mallards and a few Blue-winged Teal and Pintails were feeding at the mouth of a little stream. Local Ducks are reported to be abundant in the sloughs of western Minnesota and North Dakota.

Last spring what seemed to be an unusual number of shore-birds passed northward. In late July, they began straggling back into southern Minnesota and by early August many had returned and were loitering and feeding in flocks on the mud-flats and sand-bars left by the wasting ponds and lakes.

These late-summer and fall assemblages present to the bird student most attractive and interesting pictures and, at the same time, offer most difficult problems if the attempt be made to unravel and name the varied personnel. Frequently as many as ten or twelve species will be intermingled in the same gathering and, when startled, all will rise together in the same close-ranked, rapidly-circling flock. The clear, resonant notes uttered by some of these visitors from afar, as they call back and forth or announce their arrival on the feeding-grounds, are among the most melodious and appealing of bird voices.

Mr. A. C. Rosenwinkel, of St. Paul, reports the first Pectoral Sandpipers at Chisago Lake, Chisago County, on July 26, 3 Lesser Yellow-legs on July 27, 3 Solitary Sandpipers on August 1, and 6 Least Sandpipers on August 2. All became common soon after these dates.

Mr. Alfred Peterson, of Pipestone, visited Lake Benton, Lincoln County, in the southwestern corner of the state, on August 5 and found there a considerable gathering of shore-birds of which he made note as follows: Semipalmated Sandpiper 100, Least Sandpiper 100, Pectoral 100, Lesser Yellow-legs 20, Solitary 4, Semipalmated Plover 6. On a second visit, August 12, he found the smaller species less numerous and added the following to the former list: White-rumped Sandpiper 6, Red-backed Sandpiper 12, Upland Plover 2 and Northern Phalarope 2. He remarks that it was 'fun' to watch the Phalaropes 'spin' on the water, which is a clever trick practiced by all the Phalaropes to stir up morsels of food from the bottom, which they quickly pick up as they float to the surface.

Not far from Minneapolis, on August 9 and again on August 16, Mr. Kilgore and the writer spent considerable time studying a mixed flock of about 150 waders that were feeding on the mud-flats and in the shallow water of a pond of several acres that had reached, in the process of drying up, a stage that just suited the special needs of such birds. The most numerous species were Lesser Yellow-legs, Pectoral, Least and Semipalmated Sandpipers. But the most interesting members of this flock were one

Stilt Sandpiper seen on the 9th and 4 on the 16th, as it has always been a rather rare bird here, at least in the eastern part of the state. This bird while feeding is a deep prober, often submerging its entire head and neck as it rapidly thrusts its long bill vertically into the soft and oozy bottom. Its long and slender legs, long bill (for its body size), the broad light stripe over the eye and white rump are field marks that aid in distinguishing it from its associates. They mingle freely with the Yellow-legs and Pectorals. The bill is longer than the bill of the Lesser Yellow-legs, though the body is decidedly smaller. The Yellow-legs are not 'probers,' but pick their food from the surface as they move rather slowly about. It is a fascinating pastime to sit and watch the peculiarities of a lot of these birds of different kinds. They are usually tame and indifferent and will permit, with little if any concealment, as close an approach as is necessary.—THOS. S. ROBERTS, *Zoölogical Museum, University of Minnesota, Minneapolis, Minn.*

DENVER REGION.—With the onset of real summer each year there seems to be an absence of birds, or at least a noticeable diminution in those previously common. I imagine that everyone has observed and commented on this, explaining it, perhaps as I have, as only an apparent diminution. When I see the swarms of young Robins hereabouts, and think too, that two broods are raised, my imagination pictures the old birds as too busy filling these youngsters with worms to sing or be much in evidence. Perhaps this makes one feel that there are fewer birds about. I have never seen more Robins in this vicinity in any previous year; Miss Copeland tells me that the same is true of Grand Junction, but that the extensive waves of Robins which passed through her region in the spring left only the western subspecies as summer residents, none of the darker white-tipped-tail forms remaining as breeding birds.

This summer has been, so far, ideal as to weather conditions, which may have promoted the successful nesting of so many Robins, and also that of many Wood Peewees, Doves and Lark Sparrows. It may also

account for the unusual number of Pale Goldfinches noticeable in the city: just now this species is busy with nidification, nevertheless the males are singing with their wonted vigor and brilliancy.

I do not recall ever seeing so many Lark Sparrows in and about Denver as I have during the past two months: today (August 14) during a short drive east of the city dozens and dozens of this handsome Sparrow and their young were seen in the weeds along the road and fences. They also were common in July at Fort Logan; during a two weeks' stay there I saw the species come daily onto the parade and into the training-camp area in considerable numbers. Their cheerful song was a source of endless delight.

There has seemed to be a decided increase of Barn Swallows about Denver this spring and summer. I very much hope that this is real.

The Violet Green Swallow never remains in Denver, so far as my experience shows, being in the city only a short time during the spring migration: it has occurred in large numbers in the Grand Valley and in and about Grand Junction all summer, while the number of their young flying about this region late in July would indicate that the nesting of these birds had been most successful. Miss Copeland believes that many nests are placed in the cliffs of the nearby Gunnison River.

I have never detected the Rock Wren breeding in this city, though I know it breeds in the foothills fifteen miles west of us, and returns to Denver as early as August 15; a pair of these Wrens with three nearly-grown young was seen in Grand Junction by Miss Copeland on August 6, indicating in all probability that this pair had bred in Grand Junction or in its immediate surroundings. However, these Wrens are restless little chaps and this particular family may have wandered in from the higher surrounding country.

The season now passing has disclosed many Nighthawks in this region, all those seen so far having been of the western subspecies; on August 11 these birds were remarkably common east of Denver, flying about in veritable flocks. On the same day many Arkansas Kingbirds, especially full-grown young, were noted as I drove to and beyond

the edge of the city. Miss Copeland writes me that this Kingbird has been very common in her neighborhood, and has seemed unusually successful in raising its young.

The incidence of the Mockingbird in Denver and its region, and in the Grand Valley and the neighborhood of Grand Junction during the past eight weeks is of more than passing interest. I have seen the species but a few times in this vicinity, probably not more than two different individuals, while it has been detected in and about Grand Junction, and in widely separated places thereabouts, to wit, Clifton, Orchard Mesa and Fruita. The Mockingbird rarely comes under Miss Copeland's observation so that it is obvious that there has been an unusual number in her region. Grand Junction has apparently been fortunate also in having had a large Bullock Oriole population, while in my neighborhood this bird has been uncommon.

To offset the abundance of some species in Denver there has been a decided scarcity of others besides Bullock's Oriole; there have been notably fewer Yellow Warblers, Wood Pewees, Brewer's Blackbirds and Black-headed Grosbeaks. The last species adds so much to the summer season by its delightful song that one feels its absence more, perhaps, than that of any of our other songsters.

There are many small lakes and reservoirs immediately southwest of Fort Logan many of which are densely bordered by tula growth; the number of Yellowthroats and young Coots in these cat-tail areas was striking in July. Even a few mosquitoes did not detract from the fascination of watching these birds, more especially the old Coots feeding their young. All of the eastern slope of Colorado well out on the plains has many of these small ponds, reservoirs, and lakes, and if all harbor as many breeding Coots as those around Fort Logan, it is no wonder that in the fall thousands of Coots are to be seen on the areas of permanent water.

Miss Copeland writes me, with much sorrow, that the orchardists in her region are shooting large numbers of Robins because of their destruction of fruit, and that they unfortunately do not stop at shooting Robins, but also kill all birds including their best friend the insectivorous bird. Unhappily

this is an old story. The acquisition of wisdom is a very slow process; many people are afflicted with mental near-sightedness, so how can one expect them to have distant vision.—W. H. BERGTOLD, *Denver, Colo.*

PORTLAND (OREGON) REGION.—The summer season in the Portland district has not been marked by any unusual happenings in the bird world. The summer has been cool and rather more rainy than usual and the birds seem to like it.

Black-headed Grosbeaks, Bullock's Orioles and Green-backed Goldfinches appeared to be more common than in past years in the vicinity of my home.

Bob-whites, introduced years ago, did well. Two broods hatched in my garden are well-fledged and still doing valiant service as bug destroyers. It has been a real pleasure to watch them foraging in the garden, knowing that every trip across it reduced the insect and worm population.

Mr. S. G. Jewett reported the first flock of migrating shore-birds on July 4. A flock of small Sandpipers, either Least or Western, flew by him some distance away and could not be identified. California Gulls appeared on the Willamette River about July 15.

Ground-nesting species such as Savannah Sparrows, Vesper Sparrows, Western Meadowlark and Horned Larks of various sub-species hatched well and appear to have reared a large number of young. During the past four weeks these species have been very conspicuous. On the other hand, since the breeding-season has passed, Robins and Cedar Waxwings have not been so abundant in my neighborhood.

The writer spent part of the month of August in the Blue Mountain district of northeastern Oregon. The usual mountain birds were noted. Clarke's Nutcrackers were the most conspicuous and noisy birds. Western Chipping Sparrow, Cassin's Purple Finch, Pine Siskin and Mountain Chickadee were abundant in the order named.

While crossing a pass in the Willowa Mountains at about 8,500 feet altitude on August 21, the calls of a nest full of young birds on a ledge overhead attracted my attention. While I stood wondering what they might be, a *Leucosticte* flew to the ledge

with food in its beak. Four trips to the nest were made by this pair while I watched. While the Hepburn's is a very abundant winter visitor to this section of Oregon, this is my first breeding record and one of the first for Oregon outside of the Cascades. Pipits, another high-mountain form known to breed in the Cascades, were also present in numbers although I do not know that they were breeding.—IRA N. GABRIELSON, *Portland, Oregon.*

SAN FRANCISCO REGION.—The usual summer weather conditions have prevailed in the San Francisco region: 'warm spells' of two or three days followed by several days cooled by morning and evening high fog.

During this quiet season among birds, not many reports of special interest have come to hand. East of the Bay, in the Berkeley hills, the most notable discovery was that of a nesting pair of Sharp-shinned Hawks. The nest was located in a live oak a short distance beyond the University of California stadium. On June 16 this nest contained three one-third grown young, though it originally held four eggs. Both parents were much in evidence while the nest was being examined.

On July 2, a brood of nineteen California Quail was hatched on the west side of the Museum of Vertebrate Zoölogy. Before the day was over a pair of Jays had killed a number of the brood to feed to their family of fully-fledged youngsters. On August 5 another brood of Quail about a week old was noted in Strawberry Canyon. Another family of Jays was very much in evidence about the Museum building the first two weeks of August.

From July 15 to 29 a Robin was singing daily from the top of a bay tree in Strawberry Canyon, probably indicating late nesting activities. Three Robin nests have been noted earlier in the season in various parts of the University campus.

A family group of Western Flycatchers was observed on July 14 and 19; a family of San Francisco Towhees, still in spotted plumages, was seen feeding with parents on August 6; and at this writing Nuttall Sparrows are still feeding young in the shrubbery around the Campanile at the University of California.

Across San Francisco Bay, in Marin County, on July 22 a full-plumaged male Audubon Warbler was observed at Rock Spring. The presence of a few Audubon Warblers in this section several summers leads one to suspect that they are probably breeding there.

In the Berkeley hills Pileolated Warblers and House Wrens were seen on August 6; Yellow Warblers in fresh fall plumage have become numerous since the last of July; and Black-headed Grosbeaks are still about. Among the less common visitors a Nuttall Woodpecker was seen on several occasions in July; and a Creeper was observed August 9 and 11.

Evidences of autumn conditions show in the increasing size of flocks of Bush-tits, Green-backed Goldfinches and Linnets, and the appearance of Wren-tits on the lower campus and in city gardens. On the night of August 5, about ten o'clock, Mrs. Allen heard the notes of a seemingly large flock of migrating shore-birds. A Great Blue Heron, an occasional visitor only, was observed flying low over the University campus on August 13.

From farther south, in the coast mountains, Mrs. Allen reports finding the following birds nesting: California Towhee, June 17; Pileolated Warbler, June 20; Russet-backed Thrush, June 28; Olive-sided and Ash-throated Flycatchers, July 2; Violet-green Swallow, July 6; Western Tanager, July 13.

Reports on water- and shore-birds from Alameda and Bay Farm Island are very meager at this writing due to the fact that considerable oil has covered the bay and beaches in this vicinity. One Curlew only is reported from here; another Curlew is reported from the Oakland shore on August 13. Here also on the same date were observed about twenty Bonaparte Gulls and a flock of Sandpipers.—MARGARET W. WYTHE, *Berkeley, Calif.*

LOS ANGELES REGION.—June 17, the song of the Yellow Warbler was heard throughout the length of San Antonio Canyon. At 6,000 feet altitude, the songs of Western Tanagers, California Purple Finches, and the Warbling Vireo predominated. Olive-sided Flycatchers and the Violet-Green

Swallow were seen among the spruces of the higher slopes. Thurber's Juncos, with young in streaked vests, were numerous along the stream banks, while high in the alders well-grown Flycatchers followed their parents about.

Six Nighthawks were seen at dusk hawking about a shallow pool in the San Gabriel, Wash.

In late June, Band-tailed Pigeons and Mountain Quail were frequently seen in the early morning coming to drink at the stream in Bear Canyon, near the cabin of a summer resident.

On June 18, a pair of Western Bluebirds brought four young to the food-table of a Los Angeles Audubon member, and remained about the garden for a month or more. This is the third successive season that a Bluebird family has arrived there on the 18th or 20th of the month. The location of the nest is not known.

July 1 brought a temperature of 100° to valleys and landward slopes of the Santa Monica Mountains. In the hot glare of mid-day few birds were visible in a region thickly inhabited by many species in the nesting-season. Three Ravens, 6 Crows, and many Buzzards gave a touch of life and movement to the parched fields. Los Turas Lake, where Ruddy Ducks found abundant food in June, now appeared deserted. Within the sheltering foliage of the live oaks the resident Titmice, Bush-tits, Goldfinches, and Linnets were found in considerable numbers. The only bird-song heard during a one-hundred-mile drive was that of the irrepressible Yellow Warbler heard from a willow thicket by a little stream in one of the cooler valleys reached by the air from the sea. Near this place a pair of Bluebirds and a Bullock's Oriole were seen.

July 8, an English Sparrow was observed feeding two young Cowbirds. Heretofore in all cases that have come to our notice, the Song Sparrow has been the victim. Purple Martins have again occupied their usual quarters at Pasadena and at Balboa. Small numbers frequently visit Echo Park.

A visitor to a San Bernardino Mountain resort reports flock movements among certain birds in mid-July, as Lazuli Buntings,

which were abundant about the camp July 17, and not again seen during a fortnight's stay. Succeeding these, Western Tanagers swarmed through the region for two or three days to disappear as completely as had the Buntings. Following them the Grosbeaks and the Ash-throated Flycatchers departed. A few days later word reached me of a notable influx of several of these species, and the Warbling Vireo in Pasadena. In early August a young Grosbeak, one of a family that frequents the writer's garden, found his voice, and daily sings from a treetop perch. The soft, low midsummer song of the Mockingbird is now occasionally heard, after the quiet of the moulting season.

Fresh water from interior sources has filled the marshes and shallow pools near Playa del Rey at frequent intervals throughout the summer, resulting in an unusual assemblage of birds at that place, notably, large numbers of Avocets and Black-necked Stilts, which appear to have bred there, though no young of those species have been seen. There are, however, many acres of inaccessible marsh, where security from enemies in the form of Gulls, and the weasels which infest the flats, may have been found. Eggs of these species, and those of Least Terns have been collected. The Terns and Snowy Plover have accepted the bare, dry mud- and alkali-covered flats to which they have been driven from their immemorial home on the sandy beach. Though Gulls destroyed many eggs, and collectors secured evidence of this singular adaptation to changed conditions, some degree of success has crowned the adventure, as some downy nestlings have been found, crouching flat in the footprints left by heavy boots, which have been chosen as nests, in some cases the eggs being surrounded by a few weed-stems. On July 31, two or three downy young were seen hiding in weeds guarded by one parent while the other brought food. Eight full-grown young were strong of wing, taking flight with the adults when the resting flock were approached.

Three Snowy Egrets have summered in the place, and a few Wilson's Phalarope have been seen at frequent intervals throughout June and July.

Two pairs of Northern Phalaropes stopped there on their northward way June 3. On July 19, the first incursion of southbound birds of this species was noted, numbering 21. There have been steady accessions until at the end of the month they were estimated at a hundred or more. The record for northbound Yellow-legs closes June 12, with 3 individuals. On July 16, the returning birds were found in unusually large numbers for this species. It was not possible to make an accurate count, but all the observers were agreed that 100 was a very conservative estimate. In a few days most of these birds moved on southward.

July 4, a few Willets and 100 Least Sandpipers were listed. These had possibly remained somewhere in the area through the summer, as a few Dowitchers and a considerable number of Marbled Godwits and Hudsonian Curlew unquestionably did. July 16, large flocks of one thousand or more Least Sandpipers were found there. Few Western Sandpipers have been seen to date. July 19, more Willets had arrived, and Yellow-legs and Long-billed Dowitchers were numerous. Three Ruddy Turnstones foraged along the beach of one of the broad lagoons, where they were again seen on July 22 and 31. A Black Tern and a Wilson's Phalarope were listed on the 22d. On the 31st, four Black Terns were noted, in company with Forster's Terns. A small group of the latter have summered there. The Avocets at this date numbered about 100. Stilts were nearly as numerous. Semipalmated Plover were first listed July 23, when Bank Swallows were seen with the large flocks of Cliff Swallows that haunt the marshes.

Towards the close of July a few of the Avocets discarded the cinnamon for the white necks of winter plumage. July 26, at White's Point, 3 Black Turnstones, 1 Wandering Tattler, and 1 Spotted Sandpiper were seen. July 31, on the ocean beach at Playa del Rey, Heermann Gulls were seen accompanied by 3 dusky young. Fifty or more Bonaparte Gulls have remained in the marshes throughout the summer. August 9, a Long-billed Curlew was seen at Sunset Beach.

FRANCES B. SCHNEIDER, *Los Angeles, Calif.*

Book News and Reviews

BULLETIN OF THE ESSEX COUNTY ORNITHOLOGICAL CLUB. Salem, Mass. 1922. 8vo. 68 pp.

From September 12, 1921, to December 11, 1922, the Essex County Club held 17 regular meetings with an average attendance of nearly 23 members or nearly one-third its membership; a record which bespeaks a live organization.

The leading articles in this, the first number of the fourth volume of this publication, relate chiefly to water-birds and include 'The Music of the Golden-eye' by Charles W. Townsend; the 'So-Called Suicide of Wounded Water-birds' by Edward Howe Forbush, who presents testimony showing that wounded water-birds (chiefly Ducks) will at times cling to submerged vegetation until they die; 'Game and Shore-birds in Essex County, Massachusetts, 1922' by John C. Phillips; 'The Ipswich River-bird Trip' by Ralph Lawson, an account with a list of the Club's Sixteenth Annual outing, in which 45 members and guests took part; 'The Bay-breasted Warbler on Mt. Monadnock, New Hampshire, in Summer' by Charles L. Whittle; 'Concerning the Field Identification of the Barrow's Golden-eye' by Arthur P. Stubbs; an annotated list of birds observed by members, and 'The First Year of the New England Bird Banding Association' by Lawrence B. Fletcher.—F. M. C.

NEAR NATURE'S HEART. By CRAWFORD JACKSON. A Volume of Verse. Published by the author. Atlanta, Ga., and Guilford, N. C. 8vo. 96 pp., 4 colored plates; numerous half-tones.

The author of this volume touches life at many points, but love of nature is his dominant note and it finds frequent expression in verses to birds. Thus his muse pays tribute to 'The Birds' Orchestra' wherein voice after voice joins the morning choir; to the Hermit Thrush and to the Mockingbird, and his camera supports his pen in the not always successful effort to bring the living bird to the printed page.—F. M. C.

MATESHIP WITH BIRDS. By ALEC. H. CHISHOLM. With photographs from life by the author and others. Whitcombe and Tombs Ltd. Melbourne and London. 1922. 12mo. 196 pp., many half-tones.

This is the type of book by which the discoveries of the ornithologist become a part of the general store of knowledge. An inherent interest in birds is practically universal. When it is strong enough to force its possessor to go out and learn for himself we have the born bird-student. But in most cases feeling of mateship, or kinship, with birds must be aroused and Mr. Chisholm's volume is of the kind to awaken his readers to an appreciation of the beauty, charm, and value of birds. Designed primarily for an Australian audience, its literary merit should give it a wider field and we commend it to everyone who, through a series of pen pictures, would gain some idea of Australian bird-life.—F. M. C.

BIRDS AND MAMMALS OF THE PRIBILOF ISLANDS, ALASKA. By EDWARD A. PREBLE and W. L. MCATEE. North American Fauna No. 46. 1-128 pp.; (Birds 10-101); 245-255; 7 pls. (map and half-tones).

This paper gives us an excellent summary of the bird-life of this group of islets in Bering Sea, including with what was previously known, the field studies of the senior author who, with W. H. Osgood of the Field Museum and G. H. Parker of Harvard University, visited the group in the summer of 1914 to investigate the status of the fur seals.

Of the 137 species of birds which have been recorded from the Pribilofs, only 23 are known to nest there. Sixteen are classed as regular migrants, six as occasional visitors and the remainder are of more or less irregular or of purely accidental occurrence.

Included in this latter group are some 20 Eurasian species indicating that at least some of the factors which have brought many Old World birds to the New World by way of Bering Straits are still active.

An Introduction by Preble descriptive of

the islands and their faunal position is followed by a fully annotated list in which Preble supplies the notes on habits, while McAtee is responsible for the detailed reports on stomach contents.—F. M. C.

Ornithological Magazines

THE AUK.—The July *Auk* opens with an interesting study by A. D. DuBois, of the behavior of a Short-eared Owl, for whose five eggs, three hens' eggs had been supplemented. The Owl hatched the eggs and brooded the chicks faithfully, remaining with one which survived, until it was nine days old, the other two having succumbed to the injudicious eating of wheat kernels at an earlier age. A number of excellent photographs illustrate this article, one of which shows the pupils of the Owl's eyes dilated and expanded independently, when one was in sun and the other in shadow.

A description of spring migration bird-life in Arizona by Florence Merriam Bailey (with a half-tone plate, photographs of Mrs. Bailey's Camp, live oaks, and arid hills) pictures admirably the unfamiliar conditions and unfamiliar birds among the distant arid mountains of that state. Special attention is given to an unseasonable snow-storm in early April, and to those species which few American observers have been privileged to meet except in books. Two pages devoted to the Painted Redstart make real this gem of a bird, which for most of us has existed only in colored plates.

Presence of Franklin's Gull and Harris' Sparrow in the Chicago region, which earlier seems to have been outside their migration route (with other observed phenomena bearing on the subject) leads N. F. Leopold, Jr., to speculate on the origin of migration routes. His general conclusion that change of migration route may be brought about by chance and in many cases preserved and continued by reason of learning, until it again appears in later generations as instinct, seems sound, whether or not all the premises advanced are correct. Correlation of the first song of Cuckoo and Lark, and spring arrival of the Swallow at Montdidier, France, with an $11\frac{1}{2}$ -year periodicity in the number of sun-spots, over a period of some

eighty-five years' observation, forms the basis of an article by R. E. DeLury. Tables and charts show the amount of rainfall varying with the number of sun-spots. Lateness of the voice of the Cuckoo varies notably, and of the Lark varies slightly with these two factors, but there is no significant correlation with them and the arrival of the Swallow.

In a note on the economic status of the Bald Eagle in Alaska, E. D. Crabb gives such data as he has bearing on the subject, and enters a plea for an adequate investigation thereof. As it stands today, Alaskan Eagles are a victim to prejudice. The history of a remarkable Purple Martin colony of many years' standing at Greencastle, Pa., is set down by G. F. Ziegler, Jr.

Three general articles have to do with bird-banding. T. D. Carter and R. H. Howland describe their experiences with the brood of a male Brewster's Warbler mated to a female Golden-wing. This male and four of its young were banded, initiating an attempt to verify, by bird-banding, the accepted hypothesis that Brewster's and Lawrence's Warblers are Mendelian hybrids between the Golden-winged Warbler and Blue-winged Warbler. For further progress of this investigation see notes in the season department of August BIRD-LORE, under New York region. An excellent photograph of this Brewster's Warbler's nest (by G. C. Fisher) accompanies the article, as also photographs of the bird itself (in a trap) and of the young. Oberholser gives a résumé of bird-migration problems and points out certain aspects thereof which we may hope to solve by systematic trapping and banding, apparently unattainable in any other way. T. E. Musselman, who operated Mr. S. P. Baldwin's Thomasville, Ga., station in 1923, reports on his experiences there (illustrated). Forty-two per cent of the Chipping Sparrows captured were suffering or had suffered from an active foot infection, and by taking the same individual bird repeatedly it was possible to follow the course of this disease.

Faunal papers are 'Notes on the Nesting Birds of Northern Santa Fé County, New Mexico,' by J. K. Jenson, listing 115 species (photographs of landscape); 'Observations

on the Bird Life of Porto Rico,' by P. H. Struthers, listing 115 species; 'Notes on Summer Birds of the Mamie Lake Region, Wisconsin,' by H. H. T. Jackson, listing 89 species (illustrated with text map and photograph of a Loon's nest and the lake where found); and 'The Birds of Wellington and Waterloo Counties, Ontario,' by J. D. Soper, listing 206 species. Jenson writes of the Western Blue Grosbeak that it "seems as partial as the Crested Flycatcher is to using a cast-off snake skin for nesting material and of twenty-three nests located here during the last five years, twenty-one had as a foundation a snake skin, or part of one." Struthers has early dates at Porto Rico for the Turnstone, August 9; Lesser Yellow-legs, August 1; Greater Yellow-legs, July 23; Least Sandpiper, July 15; Wilson's Snipe, August 29; close to the dates when these species become common on the coast of New York, except the Lesser Yellow-legs, which the reviewer has, however, noticed in Porto Rico as early as July 27 (*The Auk*) July, 1916, p. 320).

The eighteenth supplement to the A. O. U. Check-list would have us consider as a race of the Common Crow, the Northwest Crow (*Corvus caurinus*) which in life is quite unlike the adjacent race of the Common Crow, that being indistinguishable offhand from our eastern race of the same.

Though there is the usual varied interest to short items in 'General Notes,' space will only permit of calling attention to records of the Wheatear from Godbout, Quebec (N. A. Comeau), which on their face suggest a breeding colony of that European bird, an astonishing possibility which would seem to call for careful investigation.—J. T. N.

THE CONDOR.—Eight general articles and a number of short notes make up the contents of *The Condor* for May, 1923. In 'Nesting Records of the Dusky Poor-will,' Joseph Dixon shows that although the Poor-will is common west of the Sierras, its eggs are in reality quite scarce in collections. Only about twelve nesting records have thus far been published and to this list seven additions are here made. The table of 19 records shows that eggs have been found at varying dates between March 22 and July 23. A

useful list of 14 papers is appended, thus bringing together the available literature on the breeding of this bird. A companion paper on 'Observations on the Habits of the Prairie Falcon,' by J. G. Tyler, deals chiefly with the food and nesting habits and contains a list of 21 sets of eggs. These sets were collected between March 25 and April 24 and contained from three to five eggs in a set.

Two historical articles comprise Kofoid's account of Boucard's 'Little Known Ornithological Journal,' 'The Hummingbird,' and Casey Wood's publication of 'A Letter from T. M. Brewer to Osbert Salvin,' dated January 9, 1877, in which Dr. Brewer requests Salvin's opinion as to the differences between the sexes of *Leucosticte t. littoralis*. In spite of the interesting account given by Kofoid, the last word has not yet been said either about Boucard or his unique journal in which almost anyone who examines a copy with care will find some new and interesting facts.

Three brief papers on northern birds include Potter's 'Notes on Birds in Southwest Saskatchewan'; Grace Hill's 'Migration of the King Eider at Synuk, Alaska,' 30 miles north of Nome, in the spring of 1915; and Willett's 'Bird Records from Craig, Alaska,' made up mainly of migration records on nine species.

Ross' article on 'The Boy who Hunts' is a plea for encouraging young people to stalk birds and mammals in order to test their skill and powers of observation.

Among the brief notes are interesting records of Clark's Nutcracker at Pacific Grove, Calif., Feb. 2, 1923; a White-winged Dove at Santa Barbara, Nov. 8, 1922, and a Lewis' Woodpecker near Tulsa, Okla., Dec. 24, 1922, all of them occurrences outside the normal ranges of these species.—T. S. P.

Bird-Lores Wanted

1901, January–February; 1902, May–June, November–December; 1910, March–April; 1911, all but March–April; 1916, September–October, November–December; 1921, November–December. Also Indexes for 1908, 1914, 1915, 1916, 1917, 1922.—G. H. SELLECK, *Exeter, N. H.*

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Bird-Lore's Motto:

A Bird in the Bush Is Worth Two in the Hand

THE forty-first annual meeting of the American Ornithologists' Union will be held at the Museum of Comparative Zoölogy, Cambridge, Massachusetts, October 9 to 11. It is difficult to overestimate the influence which this organization has exerted since its formation some forty years ago. To it we owe not only the Biological Survey and the National Association of Audubon Societies, but also the opportunity of coming together once each year to establish by actual contact, relations which can be developed in no other way. If the results arising from these annual gatherings of bird-lovers could be set down in writing they would form an illuminating chapter in the history of American Ornithology. Interests are stimulated, friendships formed, and sources of information discovered to be drawn on later as occasion arises. In short, a chain of events is started which may materially affect one's career and its outcome. We have in mind a young ornithologist, whose selection as leader of one of the most important ornithological expeditions ever planned in this country is the direct outcome of his attendance at the A. O. U. Congress in Chicago last October.

Members of the A. O. U. receive their official invitation from the Secretary of that organization, but we venture the statement that any bird-student, whether or not he be a member of the Union, will be made welcome at its open sessions to which, indeed, the public is invited. Once there, we wager he will speedily seek to affiliate himself with an organization so dominated by the spirit of

good fellowship, born of common—or better uncommon—enthusiasm, that the stranger soon finds himself among friends.

If one cannot be present in person, he may at least be represented by his name which, with those of his sponsors, may be sent to Dr. T. S. Palmer, Secretary, at the Museum of Comparative Zoölogy, Cambridge, with a request that the writer be considered as a candidate for election to Associate Membership in the Union. The annual dues for this class of members are three dollars in return for which one receives *The Auk*, the official quarterly of the Union, and acquires the very genuine satisfaction of being enrolled with others of kindred tastes. There are now some 1,450 Associate Members in the Union. There should be not less than three times this number. Sectional societies serve an admirable purpose, and they can handle local problems far more effectively than a national organization. But bird-study knows no political or even faunal boundaries. The major problems of the Pacific are those of the Mississippi Valley or Atlantic coast, and they can best be solved by countrywide coöperation.

A VERY practical and unmistakable evidence of the ever-growing interest in various phases of ornithology is found in a demand for teachers of birds, museum assistants and field-workers in ornithology. We would suggest that those who are eligible for positions of this nature place their names on file with the American Museums Association which has its headquarters in the Smithsonian Institution at Washington.

THE use of birds in advertising is further proof of their ever-increasing popularity. Thus sewing-machine and chewing-gum companies issue series of very creditably drawn and colored bird cards. A maker of automobile tires produces a booklet with the not wholly original title of 'What is That?' which includes colored pictures of flowers and butterflies, as well as birds; while the fact that birds' names are becoming part of our every-day language is indicated by such advertisements, for example, as one which assures us that a certain pen is as beautiful as the Scarlet Tanager!

The Audubon Societies

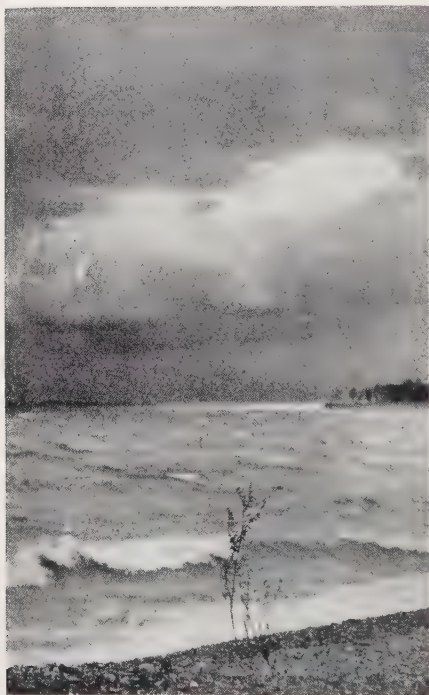
SCHOOL DEPARTMENT

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WHEN THE WILD DUCKS FLY

With Photographs by the Author



OCTOBER AND A GOOD DAY FOR DUCKS

Make your way to some extensive marsh where there are pond-holes beloved by the water-fowl, and watch the wild Ducks fly. I know of no experience more inspiring than standing on the edge of a Duck marsh one of these stormy days of October or early November when the Ducks are really flying.

Flock after flock comes from the north, most of them flying high, and apparently bent only on getting south as quickly as possible before the shallow ponds freeze over. At first so far away that they appear like a thin wisp of smoke against the hurrying clouds, they come on swiftly beating wings, until in a moment they pass overhead and then disappear into the bank of clouds at the south. Very often they are flying low enough so that one hears their wings whistle and can see enough of their

color pattern to satisfy himself as to their species. Usually they are silent, but occasionally they answer the calls of their fellows who are feeding in the ponds below, and then it is a great delight to see them break rank and circle over the marsh, trying to make up their minds that they want to delay their journey long enough to refill their capacious crops.

They seem to know well that many of the voices that they hear and the Ducks that they see are not to be trusted and they must therefore determine that all is safe before they descend to the water. Around the marsh they go in great circles, sometimes so low that it seems they must alight, but, just as often, something alarms them and they climb upward again. Three or four

times they circle and then, coming up into the wind, they set their wings and start the descent. With wings strongly arched, they drop downward, swinging first to one side of the pond and then to the other until when about twenty feet from the water, they begin to back-pedal with their wings. Their bodies come to a vertical position, they drop their legs, spreading their webbed toes and their tails at the same time to ease their descent, and, with a big splash, they land in the water. For a few moments they are silent and stretch up their



A FLOCK OF CANADA GEESE PASSING OVER

necks to make sure that all is well, and then they begin to talk. One who thinks of Ducks as only quacking will be surprised at the variety of sounds that have to be classified under the one word.

The Mallards and Black Ducks are vociferous in their expressions and their voices are real quacks, the females' louder and more rapid, the males' lower, more subdued, and slower in their repetitions. The Teal have high nasal voices and the Baldpates explosive ones, while the cries of the Wood Ducks resemble nothing more than the midnight wail of a sick baby. Although the voices of the male and female Mallards and Black Ducks are much alike, the males of other species have calls entirely different from those of the females. Drakes of the Pintail and Teal, for example, utter peeping whistles almost like the little tree toads called 'peepers,' the male Baldpate calls *whew-whew*, and the male Wood Ducks cry *hoo-eeek-hoo-eeek*. In the fall, however, the majority of Ducks are quite silent until after dark, at which time the marshes often resound with their quackings and other varied notes.

It is the Geese that are noisy during their flights, and one can often hear them honking before one can make out the form of their flock. In great wedges they go over, sometimes a hundred or more in a flock but more often from six or seven to thirty or forty. And such a racket as a hundred Geese can make,

all talking at once! It sounds as though they were all disagreeing as to who should be leader or which way they should go, but, nevertheless, they keep to their regular form and disturb not even the rhythm of their wing-beats. They seem to be in no hurry, their bodies rising and falling with the measured strokes of their great wings, and yet it is but a moment before they, too, have disappeared into the clouds and one hears only the faint echo of their voices.

There are other water-birds migrating, too. Loons, nearly as big as the Canada Geese, pass over in very scattered flocks, each one, apparently, taking no notice of the others, forty or fifty birds taking up half a square mile of the sky. Cormorants, looking like huge black Ducks with rather long tails, may fly by in long lines, flying with rather slow beats of the wings or with alternate flapping and sailing. Yellow-legs and Black-bellied Plover, the last of the season, may wheel by, their wild whistles in full keeping with the spirit of the day. But let us take our stand near some large pond where we can get a closer view of such Ducks as may decide to stop off on their journey and linger to feed for a few hours.

It is seldom that wild Ducks permit the close approach that one enjoys with the land-birds, and one must learn, therefore, to identify them at greater distances. It is only where they have been fed and protected for years that they lose their inherent wildness and fear of man and approach so close that one can see all their markings in detail. But it is the charm of their wildness that makes their study so inviting, so we conceal ourselves and await their coming. It is movement more than anything else that attracts their attention and alarms them, so we must be careful about raising our glasses or even turning our heads when they are close, and particularly when they are circling over the



DIVING DUCKS FREQUENTLY ASSEMBLE IN HUGE RAFTS
THESE ARE REDHEADS ON CAYUGA LAKE

marsh before dropping in. Often have I sat motionless in a perfectly exposed place and had the wild Ducks drop into the water within a short distance of me, only to jump with alarm when the slightest motion on my part attracted their attention to me. Indeed, I have had even the wary Black Ducks eating corn from my 'coat tail,' oblivious to my presence so long as I was perfectly quiet. Therefore, whenever the Ducks come at all close to us, in whatever position they find us, we will remain perfectly motionless until they are well past us, or obviously looking the other way.

In the beginning it is well to learn the three types of Ducks, for it makes the identification within each group so much easier. First, there are the Mergansers, or Fish Ducks, or Sawbills, as they are locally known. They have rather long, narrow bills and crested heads and in flight seem somewhat long and slender of body. Like the diving Ducks, their legs are attached rather far back and they have difficulty in rising from the water, usually 'skittering' along the surface for a short distance. There are but three species in North America, and only the little Hooded Merganser is likely to be found about the marshes, the American and Red-breasted preferring the larger bodies of water or the rivers where fish are more abundant. In October, the males have not yet come into breeding plumage, and all three species, males and females alike, are colored the same, having reddish brown heads, gray backs, and white underparts, the two larger species with conspicuous white patches in their wings.

The second group, called the diving Ducks, include the Canvasback, the Redhead, the two Scaups, the Golden-eye, the Bufflehead, the Ring-necked Duck, the Old Squaw, the three Scoters, the three Eiders, and the curious little Ruddy Duck. Most of them, like the Mergansers, prefer the larger bodies of water, where they sometimes assemble in huge 'rafts' or flocks of hundreds or even thousands of birds. They feed by diving in deep water for molluscs or aquatic plants, and being not so disturbed by the early freezes,



A GOLDEN-EYE, OR WHISTLER,
SWINGING BY

Note the spreading of the primaries on the down-strokes of the wing that causes the whistling sound so characteristic of the flight of the bird

they often do not migrate until late in the season. During the latter part of October, however, large flocks of Lesser Scaups, Redheads, Whistlers, and Scoters will be moving and the first of the Canvasbacks are likely to be seen. They do not often stop in a marsh, however, unless it happens to be an estuary from some larger body of water, and we will have to content ourselves with



DABBLING DUCKS USUALLY RISE STRAIGHT INTO THE AIR

These are female Pintails 'climbing.' The primaries of the rear bird are spread because the wings are on the up-stroke

making a guess as to their identity as they pass overhead. All of them have relatively stout bodies and short necks, and their wings are shorter than those of the dabbling Ducks.

The Golden-eyes will be the easiest to identify, for even if they do not fly close enough for us to see the large white patches in their wings, we will be able to hear the whistling sound made by the air rushing through their spread primaries as they rapidly fan the air. This has given them the name of Whistlers by which they are better known in most places. No one has ever discovered a reason why their primaries should spread more than those of other Ducks on the down stroke of the wings, but a comparison of the accompanying photographs will show that they do, and certainly the whistling of their wings is much louder than with any other species.

The Redheads, Scaups, Ringnecks, and even the Canvasbacks will look much alike to us as they fly overhead, their dark heads, black breasts, and white underparts giving the same color pattern to all four. The Redheads tend to fly in closer formation than the others, and the Canvasbacks often form a V, like the Geese, but these characteristics cannot always be depended upon. The Scoters will appear very black as they go over, darker even than Black Ducks, and, of course, much heavier-bodied and shorter-necked because they are divers, while the Blacks are dabblers. Some of the Scoters will have white in their wings, indicating that they are White-winged Scoters, but the American and Surf Scoters will look just alike from beneath. Young Scoters



DIVING DUCKS CANNOT RISE STRAIGHT INTO THE AIR, BUT MUST SKITTER ALONG THE SURFACE UNTIL THEY GET UP MOMENTUM. THESE ARE CANVASBACKS

can be told from the old ones by their lighter underparts, some being very light on the belly.

If Old Squaws are migrating we cannot miss them because of the striking pattern and the long tail-feathers of the males. From beneath they will appear snowy white, with dark wings and with a broad band of black across the breast. Even the females are quite distinctive with their white underparts and dark wings, though they lack the ornaments of the males. The little Buffheads and the Ruddy Ducks we are likely to mistake for Teal unless we realize the plumpness of their bodies, for they are much stockier than the Teal, though about the same size, and have none of the lightness and grace of flight characteristic of the latter.

It is the dabbling Ducks that are most likely to circle the marsh and drop into the pond before us—Black Ducks, Mallards, Baldpates Blue- and Green-

winged Teal, Shovellers, Pintails, and Wood Ducks. The Black Ducks and Mallards are the largest and usually the most numerous, though at times the Pintails are nearly as abundant. Unfortunately for ease in identification, males and females of most Ducks, except the Black Ducks, are very different in their color patterns and the females of all are much alike. To add to the difficulties, by October, only the male Mallards and Wood Ducks have come into their bright plumages and the other males all resemble their females. One might just as well learn the females in the beginning by their size and shape and what few marks they have and then he will be prepared to identify any Duck that he sees.

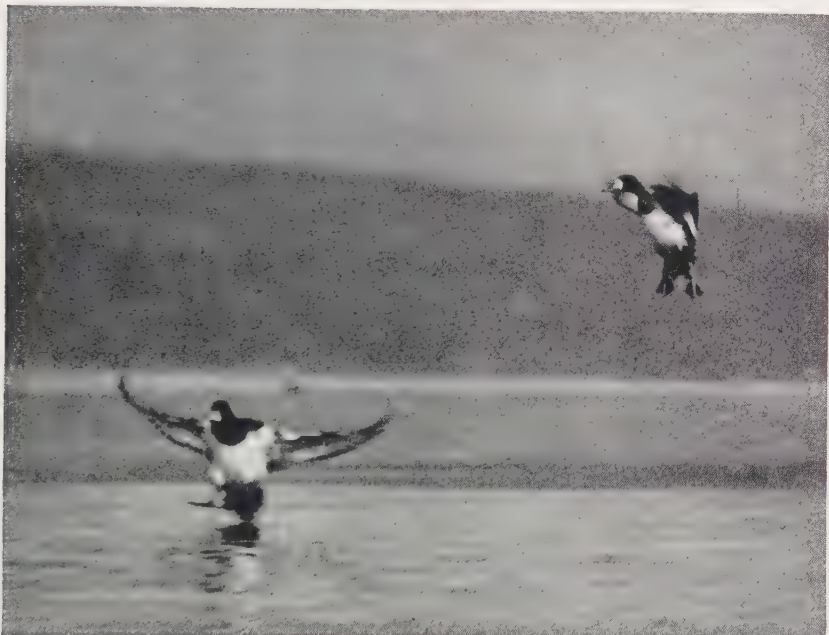
The Black Ducks and the Wood Ducks will appear the darkest, all of the others being more of a yellowish or rusty brown, while these two appear blackish brown. The white belly and longer tail distinguish the Wood Duck in any plumage, and the silvery white linings of the wings, seen against the blackish body, will always distinguish the Black Duck in flight. Females of the Mallard, Pintail, and Shoveller are all much alike in their streaked rusty brown feathers, the best field characters being the whitish outer tail-feathers of the Mallard, the slender neck and pointed tail of the Pintail, and the broad bill of the Shoveller. The two species of Teal are so much smaller that they will be confused with nothing but each other, and on the water they are almost identical except for size, the Green-wing being somewhat smaller. In flight, the Blue-wing usually shows its pale bluish 'shoulders,' appearing almost white at a distance. Both male and female Baldpates can be distinguished from the other dabbling Ducks by the conspicuous white patches in their wings, those of the male being very pronounced. They likewise differ in not being streaked, the brown of the breast and flanks being of a peculiar, uniform, cocoa shade.

There is one other dabbling Duck, common in the western parts of the Mississippi Valley, but rather rare in the East—the Gadwall. The female Gadwall is one of the most difficult Ducks to identify in the field, resembling the Baldpate very closely, but being considerably grayer.

It is fascinating to watch the Ducks circling the marsh. One forgets all about the weather, or else hopes for more wind and more snow so that even more Ducks will come down from the north. Once on the water it is interesting to watch them feed, tipping up in the shallow water, standing on their heads and pushing with their feet. The dabbling Ducks do not like to dive if they can help it, though, when driven to it, they can dive very neatly. So they push and strain to reach the bottom by tipping, sometimes sending up jets of water from their feet when they push a little too hard. Suddenly something alarms them. Up go their heads, their necks straight as pokers, and they begin edging away from the spot where they have been feeding, trying to locate the source of alarm. If they see trouble coming, up they go, straight into the air 30 to 40 feet before making off in one direction or another. How differently do the diving Ducks behave under similar circumstances! Any sudden alarm causes

them to dive, and they come to the surface 40 to 50 feet away, and likely as not are flying when they come up. But they cannot rise straight into the air like the dabblers; they must 'skitter' along the surface until they get up enough momentum to rise, and they do not rise high until they have covered a considerable distance. The dabbling Ducks leave a few widening circles to mark the spot they have left, the divers, a long wake.

Of course, it is not necessary to pick out the coldest and most bleak day of October or November to study Ducks. There are Ducks to be found in the



A PAIR OF SCAUP DUCKS DROPPING IN

marshes throughout October and most of November, though not in such large numbers. Early in the morning and just at dusk they get up and fly around, so these are the best times to watch them. And always bear this in mind, if the weather in town seems very disagreeable, for those of us who are down on the marsh, 'it's a fine day for Ducks.'—A. A. A.

SUGGESTIONS TO TEACHERS

There is, perhaps, no group of birds more inaccessible for study by most teachers with their classes than the water-fowl. In the first place, bodies of water frequented by Ducks do not ordinarily lie close to the school, and, in the second place, the water-fowl are naturally so wary that they will not permit a close approach by a single individual, to say nothing of a large class. I do know, however, schools in central New York that can watch wild Ducks and

Geese from the school windows; there are many places where streams or marshes are within walking distance, and there is no school, wherever situated, that does not lie in the path of migrating water-fowl that can be seen passing over on suitable days.

It is on the bleak, stormy days of late October or early November, when the first ice forms or the first snow flies, that the largest number pass over to their more southern wintering-grounds. The days when other birds are conspicuous by their absence, when it seems impossible to awaken interest in anything out-of-doors, are the days of all days for studying water-fowl. And what a thrill it gives one, when he jumps a mud-puddle on his way to school or dodges a moisture-laden branch, to glance up and see a wedge of wild Geese heading for the south. He forgets the weather and excitedly scans the heavens for other Geese, perhaps to be rewarded by the sight of a band of Teal following the wake of the Geese, or even circling about them, their airy flight and rapidly beating wings in sharp contrast to the direct plodding of the Geese. Perhaps it is a flock of Black Ducks or Mallards that follows behind, or the air may be full of flocks of varying size and shape, all hastening in the same direction.

No birds are more conspicuous in their migrations than the water-fowl and there is never any question about what they are doing. One often sees flocks of Robins and Blackbirds and other small birds passing overhead or assembling at some common roost, but they never inspire one to wonder at bird-migrations as do the well-formed flocks of Ducks and Geese. The feeling is uppermost in one's mind which caused Bryant to query:

Whither midst falling dew
While glow the heavens with the last steps of day,
Far through their rosy depths
Dost thou pursue thy solitary way?

Ducks are so obviously bent on getting somewhere, looking neither to the right nor the left, that one just naturally asks, "Whither?"

When children report flocks of Ducks or Geese, it is the time of all times to start a discussion of bird-migration. It may well be that you cannot identify the species of Ducks that are migrating, but the great fact of migration stands out prominently. So bring up the matter of the departure of the birds in the fall, their return in the spring, and all the interesting facts that have been learned in recent years about the order and accuracy of their journeys, the distances traveled, and the guiding sense that directs them safely between their summer and winter homes.

FROM YOUNG OBSERVERS

A PARTRIDGE NEST

One day in the middle of May I went up to Sabago Lake with my two sisters and a friend. The drive up was lovely. We saw many birds but none out of the ordinary until we stopped the car and went into the woods looking for May-flowers. The deeper in we went the more beautiful were these flowers. When we were industriously picking some, we were startled by a great whirl of wings and we looked up in time to see a Partridge heading for a clump of tall pines not far away.

Thinking that there might be a nest somewhere about us, we began to search and soon discovered it under a small spruce tree. It contained a dozen eggs. The nest consisted of a few dried leaves, and the ground was hollowed out to fit the bird's body. The eggs were light brown, with a few darker spots. Fearing that we might scare the mother bird, we hastened away but were very pleased to see such a rare and beautiful sight.—JULIA LIBBY HOLT (age 12 years), *Portland, Maine*.

[The eggs of the Ruffed Grouse, or Partridge, are usually unspotted, but occasionally eggs that are lightly spotted with brown do occur.—A. A. A.]

AN INTERESTING HOLE

There is a hole in one of our big elm trees that has had some interesting experiences. It was made by a pair of Flickers that used it for their home last spring. After the eggs were laid and hatched, I saw the mother bringing ants and other insects to the baby birds.

When they were large enough to fly, they left this home and an Owl took possession. I often saw him put his head out of the hole and look about in the slow, innocent way that Owls have. I enjoyed watching him, but he stayed only about a month, after which the hole was left vacant for the rest of the season.

It was used again this spring by a pair of Flickers. I have often wondered if they were the same birds that made the hole. They did not seem to like their neighbor, a squirrel, that lived in the top of the same tree, as I often heard them scolding each other.

The eggs were laid, but before they were hatched, one of the birds was caught by a cat. I found its wings near the tree where it had been eaten. Its mate has probably left the nest as I have not seen it lately. I hope the hole will again be used by some other interesting birds.—HOBART BAIR (age 10 years, Grade 5), *Mount Vernon, Iowa*.

[Very often, when one of a pair of birds is killed, the survivor finds a new mate and continues possession of the same nest.—A. A. A.]

A PARROT'S NEST

My home is in Brazil, S. A., but I came to Mount Vernon, Iowa, to spend a few months.

One day, while I was in Brazil, I went for a walk in the woods. I saw a Parrot come out of a decayed stump about 6 feet from the ground. The stump was about 8 feet high. I climbed up until I could see in the nest. It was about 2 feet from the ground. There were three ugly little Parrots with crooked bills, and two little white eggs in the nest.

After some days I went back again and there were four young Parrots. Three days later I went back and there were five baby Parrots, all different sizes. The smallest one was about 1 inch long, and the largest was about 3 inches long.

Several days later I went again to the nest and found that the smallest one was killed. The others were so heavy and strong that he had been crushed under them.

Perhaps, after the mother hatches two or three eggs, she lays more, and then the young Parrots hatch them.—CARL MIDKIFF (age 11 years, Grade 5).

[Carl's suggestion that the young Parrots help hatch the eggs is ingenious, but we fear not probable.—A. A. A.]

ALBERTA AND ITS BIRDS

In the March-April number of BIRD-LORE I noticed some brief notes from a schoolboy living in Nobleford, Alberta, and beneath it several notes by the Editor. I have lived in Alberta since the age of four, and I am therefore in a position to speak on this subject.

Yes, Alberta is a prairie province. It is from these great prairies that much of the grain of the world comes. But do not let it be imagined that Alberta is all prairie. Only about one-third of it is really so. Of the rest a large amount is hill country, that is, rolling prairies, dotted here and there with clumps of brush. The banks of rivers in this district, however, have all the characteristics of the forest land. The remaining division is the forest country. I have spent some time in all these districts, but in my opinion the district around Edmonton is by far the most picturesque and contains a larger amount of natural history material than any other place. Unfortunately, I was there only for a short time and was thus unable to make a thorough study of the birds of that locality.

To begin with, let us take first the prairie district. It is natural enough to suppose that the birds will be mainly of the ground type—and so they are, although an occasional percher will wander in during migration. Probably the most important family of the district is that of the Longspurs. Their name has, no doubt, originated from the fact that the nail of the hind toe is very much extended. They are all here; the Lapland Longspur, the McCown Longspur,

the Smith Longspur, and the Chestnut-collared Longspur. They all build on the ground, and I have never been able to note any material difference in the construction of the nests. Neither can the eggs be well distinguished, all being more or less of a light gray with spots of darker here and there, the finishing touch being given by blotches, spots, and streaks of black, brown, and lavender. The Desert Horned Lark of these regions needs no long description, as it is very much the same as the Horned Lark of the eastern United States and Canada, except that it is much lighter and, if anything, a little larger.

Robins, Nuthatches, White-throated Sparrows, Crows, and Red-winged Blackbirds are occasionally seen. Blackbirds are common, and the birds of prey are represented by Swainson's Hawks, Sparrow Hawks, Cooper's Hawks, Acadian Owls and Snowy Owls, with an occasional Golden Eagle. Among the rarer birds of this district is the Harris's Sparrow, which I have observed only once.

Progressing northward about eighty miles, we come to the busy city of Calgary. Surely, you would say, this is no place to go to observe birds, but the forest-like regions along the Bow and Elbow rivers here have been a happy hunting-ground for me for several years.

The Horned Lark of the prairies is here, but the other forms of prairie bird-life are rare. The Bluebird is here; he is not the blue, brown, and white bird the Easterners know, but a faded, dingy gray-blue fellow whose blue only shows up well when he flies. There are plenty of Robins here and a large number of those bird-flutes, the Meadowlarks. The Duck family is represented by Mallards, Widgeons, Teals, and Mergansers, while Killdeer are abundant. Shallow pools in the middle of woods are the homes of many of the noisy Green Tatlers, Downy Woodpeckers, Red-shafted Flickers. The Hudsonian Chickadee, the Redpoll, the Bohemian Waxwing, and the Slate-colored Junco appear in the spring, while the summer finds such birds here as the Red-winged Blackbird, the Barn Swallow, the Cliff Swallow, the Bank Swallow, the Northern Shrike, the Catbird, and the Red-breasted Nuthatch. The Sharp-tailed Grouse furnishes fine game for the sportsman in this region. The Crow and the Magpie are quite common. The birds of prey are similar to those of the south country.

I have been informed that the Ruby-throated Hummingbird inhabits these parts, but I have never had the luck to see one myself. And, oh yes! we have that little rogue, the English Sparrow. There is one perched on my window as I write, chirping away loudly as if to say, "Don't you dare forget me."

Let us now examine the birds of Edmonton, which is situated on the edge of the forest-belt. As I stated before, I was not long enough in this district to study completely its birds, but they appeared to be very similar to the birds around Calgary, with several additions. There are plenty of Harris's Sparrows here, but I have been told that they seem to disappear in nesting season. Only one authentic nest has yet been discovered. The Hummingbird is here all right,

a little red and green whizzing bullet, and the Bohemian Waxwing nests in these regions.

I might add that the birds of Alberta can stand a lot of studying yet, and there is much work for a systematic, patient ornithologist. There is also much work for the Audubon Society here, for the Alberta farmer has not yet learned that the birds are worth more to him than cats, and that all Hawks do not kill his chickens.—LORES RUSSELL, *Calgary, Alberta*.

[Boys and girls will do well to get out their geographies when they read this and see what the country looks like on the map. Locate the places mentioned and try to determine why all of Alberta should not be alike.—A. A. A.]

NOTES ON THE BIRDS OF WASCO COUNTY, EASTERN OREGON

The part of Wasco County where we lived is rolling, dry-land wheat-farms, sage-brush, and rock-breakers. There is also one of the largest irrigated apple orchards of the world. Small streams run through the larger cañons, with a thick growth of underbrush in most places.

There is an abundance of Goldfinches along the streams, also Belted Kingfishers, Flickers, Downy Woodpeckers, Black-headed Grosbeaks, Orchard and Baltimore Orioles, Sparrow Hawks, Robins, Chickadees, Crows, Song Sparrows, Killdeers, and many others.

In the towns and around the farmhouses there are vast numbers of English Sparrows, and there are also Kingbirds, Western Bluebirds, Flycatchers, Robins, and several kinds of Sparrows.

Out in the fields and on the hills are our happy neighbors, the Meadowlarks, Burrowing Owls, and Horned Larks, which I took to be the prairie subspecies.

Along the creeks there is a Heron about the size of the Great Blue and about the same color, but the feathers of the head and neck lay flat and make them look bare.—OLIVER CRANDALL, (age 16), *Toppenish, Wash.*

[Bird-lovers in the East are always interested to hear what the common birds in the West are. It is the common birds that indicate what the country is like, not the rare one, and often the common birds are rare in other parts of the country. Boys and girls in the East would love to see a Black-headed Grosbeak or a Burrowing Owl.—A. A. A.]

OCTOBER 12 IN CHICAGO

In these days of expensive travel it isn't easy to wander very far afield for our nature-study. There are lots of nice things to do at home, however, and any number of interesting things to see. I am sure you will think so too when I tell you what my 'littlest' boy and I saw today in our own back yard, or, as we prefer to call it, our garden.

Not many feet from us is a public garage, and all around us many large apartment buildings, yet this morning we spent all our spare minutes watch-

ing the birds which are going south for the winter, and which love to stop, on their way and hop in and out of our shrubbery.

We first saw a whole flock of White-throated Sparrows. They looked very sleek and fine after their summer in the north woods. They hopped over the grass and diligently ate the fine harvest of seeds and insects that they found in the garden, every now and then saying *tseep, tseep*. Perhaps they were talking about the long cold winter days that were coming, when they would have a nice coat of fat to keep them from shivering.

Strutting in and out of the shrubbery and quickly dodging out of sight at every sound was a cunning Oven-bird. It looked like a tiny little hen, as it scratched in the fallen leaves, or strutted along, its striped head nodding as it walked.

A Golden-crowned Kinglet hopped and flew from branch to branch of a lilac bush close to my kitchen window, while an agile little Brown Creeper ran up the trunk of a tree not three feet away from us. A Brown Thrush, with a plump, spotted breast, hopped in and out beneath the shrubs and drank from the bird-bath that we keep filled with water for our active little visitors.

So, you see, though far from the woods and fields, even in a prosaic city like Chicago, there are hosts of interesting things to see, if your eyes are only bright enough.—ELIZABETH P. BOWERS, 5420 *Kimback Avenue, Chicago, Ill.*

[Those of us who live in large cities are apt to envy our country cousins and their opportunities for observing birds, but Miss Powers shows us how, even in the largest cities, there are birds to see if our eyes are sharp and if we know when and where to look.—A. A. A.]

A SCARLET TANAGER FAMILY

I am an interested reader of your magazine which I have subscribed to for a long time. I was much interested in the account of the Scarlet Tanager which was in the July-August number of BIRD-LORE.

One day while I was sitting upon a large rock beneath an oak tree, I saw the bright red plumage of the Scarlet Tanager flash in the hot sun. A moment later he was joined by his olive-drab mate and I at once suspected a nest somewhere. After searching the branches of the oak I discerned a crude structure of twigs on the center of a limb about 30 feet from the ground. I cautiously climbed the tree and upon reaching the required height, I saw that the flimsy appearing nest contained four fluffy, large-mouthed babies.

The next day I climbed the tree and made myself comfortable upon the same limb which held the nest and about five feet from it. The parents were at first shy and the female would jump from twig to twig till she reached the nest where she would feed the gaping mouths and fly away hurriedly. Later she came directly to the nest where I could see the whole process of feeding. These bold actions induced the male to come cautiously to the nest. At times both adults came to the nest at once and a little squabble ensued which ended

by each sitting opposite the other upon the nest. Owing to the poor conditions I could not photograph the little family and so had to be content with the picture left in my mind which I shall never forget.

We have here Chestnut-sided, Black and White, Yellow and Hooded Warblers, Maryland Yellow-throats, Thrushes, Chewinks, Vireos, Quail, Pheasants, an occasional Partridge and of course all the common birds.

Wishing your magazine further success.—PAUL CURTIS, (age 12 years), *Wellesley Hills, Mass.*

[This is the way to become familiar with birds. The Scarlet Tanager is more than a name or a flash of color to Paul since this experience.—A. A. A.]

OUR PET BIRDS

This summer near our house two Robins built their nest in a crab-apple tree. When nearly full grown two of the baby birds fell out of their nest. We put them back again but they continued to fall out. So my sister and I each took a bird and fed it. When we went on a picnic we took them with us and while we went fishing my mother fed them. When we went to town they went along. We fed them about every ten minutes. We fed them on worms with occasionally a bug. Several times they hopped away but we found them again. One evening they started to fly a little and the next night while they were in the box they slept in, the mother bird got them away for good. We had fed and played with them for a week.—STIRLING DICKINSON (age 11 years).

[If everyone who tries to care for young birds that have fallen from the nest will be as faithful as Stirling and his sister, the well-meant intentions will be equally successful. Too often the 'Good Samaritan' does not realize the amount of food required by the foundling and a tragedy results.—A. A. A.]

BIRD LIFE AT BIRD'S INN

The birds in this locality are becoming more numerous every year. We have had a feeding station in our yard for several years, which seems to have had a great influence; those visiting the station most regularly are the Blue Jay, Cardinal, Downy Woodpecker, Hairy Woodpecker, Nuthatch, Robin, Song Sparrow, and English Sparrow.

As we are only a square from the city limits, Quails are beginning to frequent our chicken-yard in winter, although we keep feeding-stations for them out in the fields and woods at 'Squirrel's Inn,' my aunt's estate across the street from us. The Pheasants have roosted in our fruit trees and those of our neighbor numerous times this winter.

A neighbor of ours has a wild female Pheasant which came to them during the hunting season, its mate probably having been shot. At first

it would come for something to eat, then disappear, but now it eats and roosts with the chickens. Every morning it comes to the back door and chirps till some one comes out and talks to it. The Quails are so tame that one is able to approach within 3 feet of a whole covey.—KATHARINE R. MENKE, *Greenville, Ohio*.

"IT PAYS TO ADVERTISE"

For Rent, Wren House. A roomy bungalow for a pair of young wrens located a little way from the house. Vine-covered, easily cleaned and ventilated Waterproof; hole the size of a quarter and five inches from the floor. Built of durable wood and guaranteed to last a long time in any kind of weather. Pleasantly situated in Virginia three miles directly west of Mount Vernon, near a white farmhouse on a hill. Farmer's daughter keeps a cafeteria for any honest bird that wants food and drink. Open all hours. Terms: Birds must help in the garden by eating bugs and worms. Any bird caught quarreling with another bird or squirrel will be put out immediately. Apply to WHITE HOUSE FARM, VA. (Theda Sherman).

A BIRD TRAGEDY

The rain came down in torrents, drowning out all other sounds. It had been storming for nearly half an hour, when suddenly came a blinding flash of lightning, a terrible crash of thunder, a moment of silence, and the thunder rumbled away into the distance.

Mother, my sister, and I were all alone on this stormy evening. We hurried to the window to see if the barn had been struck. One glance proved that it was not the barn, but a large tree in the orchard, the one with the Flicker's nest!

To me the Flicker has always seemed out of place. He would fit better in a fairy story. Before we knew his name, we called him 'the golden-winged bird.'

The rain soon stopped and the sun came out from behind the clouds low in the west, giving a golden tint to all of the fresh earth. I ran to the tree in the orchard. At the sight of it, I stopped suddenly. The tree was broken at the Flicker's hole, and the mother bird lay there motionless. The way I felt I'll never forget. She was wedged in so tight I could not get to her. But with a neighbor boy's help, I managed to pull the bark away and lifted her out. Her eggs were broken, but her body was still warm, and I could not believe she was dead.

When I carried her to the house, mother said she was lifeless, but I was positive I felt her heart beating. All night long I held her in my hands, hoping she would revive. But morning brought the truth.

A tiny grave under the apple tree and a golden wing among my choicest possessions are all that mark the memory of that stormy evening.—VIRGINIA JUNE RATLIFF (age 14 years), *Dover, Del.*

[When we remember how many trees are struck by lightning, it is probable that tragedies similar to the one here so well described are more frequent than we realize.—A. A. A.]



COMMON TERN
Photographed by F. N. Wilson

HERONS OF THE UNITED STATES

By T. GILBERT PEARSON

The National Association of Audubon Societies

BULLETIN NO. 5 (PART IV)

LITTLE GREEN HERON (*Butorides virescens virescens*)

DESCRIPTION.—The feathers of the back and wing-coverts, although tinged more or less with bluish gray, show much green, which has been the cause of giving this bird the name Little Green Heron. The chestnut color of the neck and sides of the head is very noticeable. There is a white streak running down the throat. The legs and feet are yellow. On the top of the head we again find green, here in the form of greenish black.

The above description, especially when taken in connection with the accompanying picture (Plate 4, No. 1) should be sufficient for identifying a specimen. Inexperienced students have sometimes confused this species with the Least Bittern, to which there is a certain slight similarity of appearance. There is, however, a decided difference in the size of the birds, the Little Green Heron being much larger. The length of a typical specimen from bill-tip to tail-tip is 17 inches, although individuals may be found that vary an inch one way or the other. The expanse of the wings between their tips is usually about 25 inches. The bill is $2\frac{1}{2}$ inches in length.

Two sub-species of the Little Green Heron are recognized; one, Frazar's Green Heron (*Butorides virescens frazari*), described by William Brewster, from Lower California; and Anthony's Green Heron (*Butorides virescens anthonyi*), found in the arid regions of southwestern United States, ranging also from Yreka, California on the north to southern Mexico. Both of the above-mentioned birds are extremely similar to the common Little Green Heron; Anthony's, for example, being simply a paler desert form of the eastern bird.

RANGE.—Little Green Herons breed from Nova Scotia, southern Ontario and Wisconsin southward to the West Indies. They are migratory and pass the winter in the West Indies and southward, rarely any of them remaining within the borders of the United States.

GENERAL NOTES.—This, the smallest of the sub-family of True Herons found in the United States is perhaps more frequently met with than any of the nearly related forms. The bird frequents the borders of ponds, reedy lakes, brackish water-marshes, mill-ponds, and streams that wind their way through farm lands. Perched on a submerged log or twig just over the water, or wading in the shallows the bird seeks its prey. When discovered it may momentarily regard the intruder with raised crest and then with rapid flapping of the wings depart to a more quiet region. Sometimes these flights are prolonged across fields or marshes, but other times the bird will go only a few rods before again

seeking cover. When taking flight it usually emits one or more startled cries and if one pursues his observations very far he is sure to hear the bird employ under different conditions the various notes of its repertoire.

Farm boys throughout the land generally know this bird, frequently under such titles as 'Shite-poke,' 'Fly-up-the-Creek,' or 'Indian Hen.'

The nest is a platform of twigs frequently so loosely constructed that one may see the blue of the eggs from below. Horizontal limbs, hanging but a few feet above the creek- or river-bank are often selected as nesting-sites. Passing through the canals of the great Louisiana marshes one may startle the birds from the bushes growing on the canal-banks. I have seen their nests at considerable distances from any water where they have been built in oak, cedar, apple or other trees. The eggs are generally four or five in number and have the bluish-green color so characteristic of the eggs of the Heron family. Many times solitary nests are found with no other birds breeding in the immediate neighborhood. Again small colonies numbering perhaps six or eight pairs will be discovered. Among the Heron rookeries it is not uncommon to find several Little Green Heron nests.

The food of this species consists of minnows, frogs, water-insects of various kinds, and doubtless at times young water-snakes.

It is protected by state and federal laws, within the United States. Occasionally one hears complaints of their depredations to trout-fry at fish-hatcheries. These do not appear to be very numerous and where one of the birds becomes addicted to such habits the manager of the hatchery may usually get a special dispensation for removing the annoyance.

LEAST BITTERN (*Ixobrychus exilis*)

DESCRIPTION.—The feathered covering of the Least Bittern is indeed a coat of many colors. The neck is chestnut-rufous, particularly dark on the back. There is rufous on the wings and a general buffy color beneath. In the male the top of the head, as well as the back and tail are shiny black. On the female the black of the back is covered with a thin washing of chestnut, and the under parts are a little darker. The drawing by Fuertes (Plate 4, No. 2) will give a good idea of the colors of the bird as it appears while perched and at rest. It is four inches shorter than the preceding species, measuring about 13 inches from bill-tip to tail-tip. The bill is a little less than 2 inches in length.

RANGE.—The general range of the Least Bittern may be said to cover temperate North America and the northern part of South America. It breeds in Nova Scotia and westward as far as Saskatchewan. From here the range extends southward to the West Indies and Brazil. In winter it may be looked for in the United States only in Florida or in those states bordering on the Gulf of Mexico. The great majority of these birds depart in autumn for more

tropical regions. In spring they usually arrive on their nesting-grounds during March or April and nest-building is soon afterwards started.

GENERAL NOTES.—The Least Bittern is an inhabitant of marshes. I do not recall ever having seen one very far in a wooded swamp. Where the Rail hides and the Red-wing sings you may look for this diminutive representative of the great Heron tribe. Some of its movements are very odd and when seen for the first time often impress one strangely. For example, when the bird is startled from its haunts in the marsh grass or rushes, it often departs in the most awkward manner. Apparently it flies with the greatest effort and its legs dangle in an ungainly manner. One may even think he has flushed a young bird as yet inexperienced with aerial navigation, but if the flight is prolonged it soon draws in its legs and, as though gaining confidence in its ability to fly, will wing its way with great swiftness across lake or marsh-land.

The nest is made among the reeds or in bushes growing in the water. Sometimes twigs are used in the construction of the cradle for its young. Often blades of marsh grass, or leaves of the rushes are employed. The completed structure is much more substantial in some cases than in others. This variance in nest-construction, by the way, is not confined by any means to the bird under discussion. The eggs are generally four or five in number, elliptical in shape and are very pale blue in color.

Least Bitterns are not noisy birds, a low cooing cry being the one sound generally heard, if indeed any note at all catches the ear. When startled, but not suspecting it is seen, it will at times assume a perfectly rigid position with bill pointing almost directly upward. The light streaked appearance of the throat causes it to blend closely with its usual surroundings of marsh grass or rushes. In this position it is generally well hidden. The young in the nest will often rise and stand thus like four little grotesque statues until the observer has passed on.

The food consists of such small animal life as it can catch easily while clinging to the reeds growing in the water. Like the Rail, the Least Bittern can compress its body until it can pass through astonishingly small cracks, which must be a very great advantage to a bird whose life must be passed working its way through thick tangles of wild marsh growth. It is accustomed to progress by grasping the stems of the rushes with its long flexible toes, as it moves along.

CORY'S LEAST BITTERN (*Ixobrychus neoxenus*)

DESCRIPTION.—This bird described by Cory is very similar to the Least Bittern. In fact it might almost be described as simply a color phase of that species. As will be seen in the drawing (Plate 4, No. 3) it is much darker in general appearance, the details of which one may readily ascertain by comparing the birds as illustrated.

RANGE.—Not very much is known about the range of the Cory's Least

Bittern. It has been known to breed in south Florida and in Ontario. There are records of its appearance in Massachusetts, Michigan, Wisconsin and elsewhere.

BITTERN (*Botaurus lentiginosus*)

DESCRIPTION.—The general appearance of this species is that of a large brown bird which on closer inspection seems to be streaked with white on the breast and to some extent the sides and back. Even the black area on the sides of the neck assumes the form of streaks. On the back of the neck the dominating color is bluish slate with much buff on the back and wings. The legs are green. From the bill-tip to tail-tip the Bittern measures about 28 inches. The bill is 3 inches in length.

RANGE.—The Bittern breeds from central British Columbia eastward to Newfoundland and south to California, Arizona, Kansas, the Ohio Valley and perhaps North Carolina. It has been found wintering in many of the southern states, as for example, California, Arizona, Texas, the Ohio Valley and from Virginia southward. Many go to Cuba; others to Guatemala.

GENERAL NOTES.—Inexperienced nature students have often confused this large Bittern with the Black-crowned Night Heron. There is a similarity in size, feeding-haunts, and to a less extent in flight, but the colors are notably different if one is close enough to the birds to discern their markings.

The home of the Bittern is in the marshes. I have never seen one perched in a tree. One of its striking characteristics is the thundering boom which the male produces during the mating- and nesting-season. It is a most astonishing sound and extremely hard to locate. One may work his boat through winding marsh creeks or leave it and wade over long stretches before finding the creature that produces the sound that so strangely attracts him. It has been likened to the distant bellowing of a bull. To my mind it is more like the deep tones of an intermittent fog-horn. Some have described the note as similar to the sound of driving a stake into a bog; others to the working of an old-fashioned wooden pump. In fact one of the names by which it is known is 'Thunder Pumper.'

The nest is built in a marsh of such material as may readily be gathered near at hand, and here the three to five dull olive, buff eggs are laid.

The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, President

Address all correspondence, and send all remittances, for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City. Telephone, Columbus 7327

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Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

\$5 annually pays for a Sustaining Membership
\$100 paid at one time constitutes a Life Membership
\$1,000 constitutes a person a Patron
\$5,000 constitutes a person a Founder
\$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

NOTICE OF ANNUAL MEETING

The nineteenth annual meeting of the National Association of Audubon Societies for the Protection of Wild Birds and Animals, will be held on October 30, 1923, in the American Museum of Natural History, New York City, at 10 o'clock a.m.

General matters in connection with the year's work will be presented in the form of reports from the President and Treasurer. Field agents of the Association and delegates

from affiliated organizations will be heard.

Luncheon will be served to members and delegates and in the afternoon a conference of workers and others will convene.

A public meeting, with addresses illustrated with slides and motion pictures, will be held at 8 p.m. on the preceding evening, October 29, in the large lecture hall of the Museum. The public is cordially invited to attend all sessions.

MEMORIAL TO W. H. HUDSON

W. H. Hudson, who died in England during the month of August, 1922, was one of the most charming writers on natural history the world has yet produced. Where in all literature of the subject can one find a more delightful and captivating volume than his book, 'Long Ago and Far Away,' in which he so charmingly presents the impressive lessons of natural history he learned as a child on the pampas of South America?

Thousands have read with eagerness his last book, 'A Hind in Richmond Park,' so recently issued.

Most fitting is the movement now on foot in England to erect a proper memorial to the

memory of the gentle and spiritually minded Hudson who did so much to arouse a deep appreciation on the part of mankind for the beauty of the world in which we live. It is proposed to erect a drinking- and bathing-fountain for birds, if possible in connection with 'a Hudson Bird Sanctuary' in one of the London parks.

The following Committee of prominent English people have this matter in charge: Cunninghame Graham (Chairman), Viscountess Grey, Muirhead Bone, J. M. Dent, Gerald Duckworth, Miss Linda Gardiner, Edward Garnett, Holbrook Jackson, Mrs. Reginald McKenna, H. J. Massingham.

Hugh Dent, Hon. Treasurer, and Mrs. Frank E. Lemon, Hon. Secretary.

Hudson's numerous books were so extensively read in the United States that many of us feel we have almost as much claim on him as do our friends across the sea, and I believe there are various members of this

Association who might like to contribute to this very beautiful testimonial which it is planned to erect. Those desiring to do so may send their gifts to the National Association of Audubon Societies, 1974 Broadway, New York City, where receipt will be given and the funds transferred to England.

THE PARIS CONVENTION

The International Convention for the Consideration of National Monuments and Wild-Life Sanctuaries was held in Paris, May 31-June 3 (inclusive), 1923.

The Convention was called and held under the auspices of the Société Nationale d'Acclimatation de France, the Société pour la Protection des Paysages de France, and the Ligue Française pour la Protection des Oiseaux. Meetings were held under the presidency of M. Louis Mangin. The Secretary was M. R. de Clermont. Representatives were present from many European countries, and at the sessions presented a long series of papers on an interesting variety of subjects. Various social functions were held in connection with the Convention, including a dinner given by M. Jean Delacour, President of the Ligue Française pour la Protection des Oiseaux, and the presiding officer over one of the sections of the Convention.

The President of the National Association of Audubon Societies had the pleasure of attending this Convention and spoke on the subject of bird reservations and sanctuaries in the United States. Moving pictures made by William L. Finley and Norman McClintock, showing bird life on some of the United States Government and Audubon Society reservations, were shown and seemed to arouse much interest.

The following resolutions, prepared by the writer, were introduced after receiving the

endorsement of those members of the International Committee for Bird-Protection who were present from France, Holland, and England.

Resolution No. 1

We deplore the fact that in many countries there exists as yet no complete system of laws for the protection of those species of insect-eating birds which are of such small size as to be of little value for human food, and yet are of great economic importance to the agricultural and horticultural interests of mankind. We respectfully urge that such countries enact laws for the protection of this class of birds.

Resolution No. 2

Realizing the fact that the feathers of wild birds used in the millinery trade, especially those of the Egret, Crowned Pigeon, and Birds-of-Paradise, come almost entirely from birds killed for this one purpose, and that such practice is not only inhumane, but has already resulted in the extermination of certain species over parts of their range, be it

Resolved, That this Convention urges all nations that have not already taken such action to prohibit the killing, export, import, and sale of the feathers of wild birds, not including the Ostrich or game-birds reared on preserves for the sport of shooting.

Both resolutions were adopted.

It was interesting to note that a large number of representatives of the millinery trade of Paris continually attended the sessions of the Section at which were presented the different papers on bird-protection.

SAVE SOME OF THE MARSHES FOR WILD LIFE

The Mississippi River Valley has long been recognized as one of the chief migratory highways for water-fowl. From the Far North, Wild Ducks and Geese annually pass down the river, seeking their winter quarters

along the Gulf Coast of the United States and Mexico. By the same route, many return in the spring. One reason for the great popularity of this line of travel lies in the fact that along great stretches of the



DAVID D. DAVIS, OF WILTON, N. H.

A friend of the birds and a member of the National Association of Audubon Societies, who died in August, 1922
Under a provision of his will the Association has received a legacy of \$15,000

river there extends a series of marshes, swamps, and shallow ponds where water-fowl may pause for rest and food. With the more complete occupation of arable lands, agricultural interests have in recent years gone extensively into the project of draining swamps and marsh-lands in order that these areas may be converted into fields for the raising of crops. As a result, the wild-fowl feeding-grounds in many regions have been destroyed, and particularly is this more and more coming to pass in the territory just mentioned.

The past spring the writer traveled through much of southern Florida and was appalled at the changes which civilization is so rapidly producing in this last wilderness in our southern country. Many hundreds of thousands of acres in the Everglades territory have been drained since his last visit. Steam dredges were busy cutting their way into some of the more sequestered lakes, and the vast marshes are giving up their waters. Even on the southern Kissimmee prairies and in the semi-barren country lying north and east of Lake Okeechobee, one may see long canals everywhere crossing the country. This condition exists from the southern reaches of the Kissimmee River to the Atlantic Coast. Over immense areas where in days gone by I had seen myriads of wild fowl, today there is no place for them. The

marshes are being turned into fields. Thus does civilization in its march destroy the haunts of the wild life in the wilderness.

No wonder, therefore, that those interested in wild-bird protection are looking askance at the increased number of drainage projects which are destroying important haunts of wild fowl. Many voices are heard crying out that at least some places be preserved where migratory water-fowl may find food and shelter. To take up the task of purchasing and preserving such areas we must look to the United States Government.

Here is one of the more urgent reasons why those interested in conservation should energetically support the Game Refuge Bill which will again be introduced into Congress this fall. Should this bill become a law it is estimated that perhaps a million dollars annually will become available for this purpose.

The Izaak Walton League, an organization interested in wild-life protection, and especially in preserving game- and food-fishes, is now adding its efforts to those of others to preserve the marsh-lands. In seeking to check the drainage of the Wineshiek bottom lands, which lie along the Upper Mississippi River, between Lynxville and De Soto, Wis., it is calling upon its members and friends to file protests with President Coolidge.

THE FLORIDA LAW REQUIRING BIRD-STUDY IN THE SCHOOLS

Although Mrs. Katharine Tippetts, President of the Florida Audubon Society, failed to get her State Game Commission Bill passed at the last session of the Legislature, she can well be congratulated on the successful passage of the law requiring bird-study in the schools of that state. Mrs. Tippetts was in no small part responsible for the passage of this measure. As a matter of record, and also of interest to the workers in other states, this entire law is herewith given:

Chapter 9142 (No. 24)

An Act to Provide a Course in the Public Schools of this State Relative to the Protection of Birds and Animals.

Be it Enacted by the Legislature of the State of Florida:

Section 1. Be it enacted: that for the purpose of lessening crime, and raising the standard of good citizenship, and inculcating the spirit of humanity, such humane education shall be given in public schools of this State as shall include the kind and just treatment of horses, dogs, cats, birds, and all other animals.

Section 2. In every public school within this State not less than one-half hour of each week during the whole of each term of school shall be devoted to teaching the pupils thereof kindness and justice to, and humane treatment and protection of animals and birds and the important part they fulfil in the economy of nature. It shall be optional with the teacher whether it shall be a consecutive

half-hour or divided into shorter periods through the week, or whether such teaching shall be through humane reading, stories, narratives of daily incidents, or illustrations taken from personal experiences. The instruction shall be part of the curriculum of study in all the public schools of the State.

Section 3. The principal or teacher of every

school shall certify in his or her reports that such instruction has been given in the school under his or her control.

Section 4. All laws and parts of laws in conflict with the provisions of this Act are hereby repealed.

Section 5. This Act shall take effect upon its becoming a law.

Approved June 7, 1923.

MORE BIRD SANCTUARIES

The following paragraph taken from a recent issue of *The American Field* is but another demonstration of the rapidly growing interest in wild-life sanctuaries:

The extensive areas of unoccupied land connected with the du Pont explosives plants in the United States, amounting to 36,344 acres, are to be used as sanctuaries where game and insectivorous birds will be protected. The Sporting Powder Division of the Company stated recently that this step was being taken in connection with its plans for the better preservation of game. Several

of the plants have already been stocked and the game has multiplied and been protected to such an extent that it is supplying the surrounding country. The reservations of plants to be used for the purpose are located in the states of Pennsylvania, Colorado, Alabama, Washington, Iowa, West Virginia, Minnesota, New Jersey, Missouri, Wisconsin, and Montana. Many of the reservations are heavily wooded and particularly adapted for the purpose. There are twenty-four in all, and the ground about them available for game preservation purposes ranges from 6,000 acres down to the average-sized farm.

THE IMPERILLED HEATH HEN

By HERBERT K. JOB

To secure a motion-picture film of the vanishing Heath Hen, on Martha's Vineyard, Mass., for the National Association of Audubon Societies, before the race might become extinct, I was at the State Reservation there from May 15 to May 22, inclusive, by the courtesy of the State Board of Fisheries and Game and the kindness of Superintendent Allan Keniston and Mrs. Keniston. Space is lacking to describe the trip and the habits of the birds, and only suffices for a brief summary.

The present facts are that the Heath Hen is on the very verge of extinction, and it may be too late to restore it, though there is still just a fighting chance. In the past two or three years, despite heroic efforts and considerable expenditure, decrease has been constant and rapid. A census the past spring revealed but twenty-nine birds. Later a few more were counted by Mr. Keniston, but it seems clear that there are less than fifty surviving birds, and nearly all these are males. It was feared that there were no females left. Prof. Alfred O. Gross, of Bowdoin College,

Maine, has been making intensive studies on the grounds and later will publish the results in full. In the nesting-time this season he secured a trained hunting-dog, and beat the oak scrub habitat for 50 miles, without finding a single female, nest, or brood. Later, in July, two females were seen, one with four young, the other with two only. Hawks, especially the Marsh Hawk, prove very destructive, and it is more than likely that they will capture these few survivors.

Forest fires, vermin, and one other cause seem to be their undoing. This last is the great excess of males, due doubtless to the destruction by the fires of the close-sitting females. The contention of many males for each female is believed to prevent successful breeding. The plan has, therefore, been undertaken by the state authorities to trap these excess males, in order to give the few remaining hens a chance. A beginning was made this spring with the trapping of six birds, all of which proved to be males, and larger results can be looked for the coming winter. However, when a species is so near



A MALE FLICKER
From drawing by Robert J. Sim

the vanishing point, it is dubious if any measures can prove effective, though no possible efforts should be neglected.

The increase of visitors seemed to have frightened the band, consisting only of males, from their chief 'dance' ground on the reservation, so in our efforts to secure photographs of the birds in nature we had to relocate them and build a new blind. There were but seven males left here, instead of

more than seventy, two or three years ago, and not a female was discovered. These were more shy than before, but, after some mornings of fog and rain, the daily vigils, beginning soon after 3 A.M., and ending at 6 to 6.30 with the departure of the birds, resulted in some success, and a reel of motion pictures were secured, which the National Association has added to its film library to preserve for posterity.

NEW LIFE MEMBERS

Enrolled from July 1, 1923 to September 1, 1923

Frick, Mrs. Childs
Morgan, Mrs. Gerald
Smith, Howard
Stout, Andrew V.

Tyler, Miss Mary Graham
Walker, Miss Lydia M.
Wittmer, Henry

NEW SUSTAINING MEMBERS

Enrolled from July 1, 1923 to September 1, 1923

Adelberg, Joseph E., Jr.
Alling, Clarence E.
Ard, Dr. Frank C.
Arnold, Miss Mary
Atkins, Frederick L.
Ayres, Douglas, Jr.
Baer, Miss Myrtle W.
Ballman, Mrs. Ed.
Banks, Mrs. Theodore H.
Beardsley, Sterling S.
Beatty, W. Gedney
Becker, Mrs. Martha G. A.
Belling, Miss Hannah S.
Benedict, Elliot S.
Best, Mrs. E. H.
Best, Dr. F. W.
Blanchard, Miss Victorine
Bobbs, J.
Brandt, Herbert W.
Brinckerhoff, Miss Jeanette
Bunker, William
Bunnell, Mrs. Walter L.
Byron, Lewis T., Jr.
Cheney, Geo. L.
Cheney, Mrs. Geo. L.
Cheney, Paul H.
Clark, Miss Maud S.
Cochran, Dr. Geo. G., Jr.
Cook, Mrs. H. M.
Dole, Elwyn H.
Dunn, John Randall
Findlay, Miss Mary
Forman, Miss Elizabeth M.
Fralick, Miss Orpha
Gildehaus, H. W.
Gordon, Mrs. Vivian

Gunari, A. P.
Haas, Miss Gertrude
Haldanewyse, Sidney
Hambleton, T. Edward, Jr.
Hassam, Childe
Henkel, Miss Bertha
Holman, John P.
Holton, Miss Louisa S.
Hopkins, Mrs. Geo. B.
Huber, Mrs. Charles Willing
Jones, Mrs. Nellie V.
Kamper, John E.
Keech, Mrs. Frank B.
Keller, Carl T.
Kepner, C. M.
Kepner, Mrs. C. M.
Kimber, Mrs. T. William
Knowles, Mrs. Edwin C. F.
Kohler, Louis S.
Kuehnle, C. Albert
Kuemmerle, G. C.
Lester, Mrs. Joseph H.
Ludington, C. T.
Lynch, Miss Annie F.
McCartee, Mrs. Peter
McCormick, W. H., Jr.
McCreary, Mrs. George D.
McGraw, Stanley D.
McIntosh, Mrs. F. G.
McKinney, Hayes
Masson, John G.
Mellard, Samuel
Mershon, R. H.
Meyer, Schuyler M.
Mitchell, J. F. B.
Mitchell, Mrs. J. P.

NEW SUSTAINING MEMBERS, continued

Morlin, Mrs. W. Brown	Smale, Mrs. A. K.
Newton, F. Maurice	Small, Herbert
North, Miss Betty L.	Smith, Miss Charlotte Curtis
Noyes, Mrs. H. F.	Smyth, David W.
Nye, Robert N.	Stark, James H.
Pack, Mrs. Arthur Newton	Stein, John Bethune
Pleasant, Miss Nellie K.	Stout, Mrs. Andrew V.
Rawson, Charles I.	Stratton, Dr. R. T.
Reyburn, Mrs. John R.	Strongman, Mrs. J. H.
Rhodes, Chas. O.	Sturges, Miss Elizabeth M.
Rich, Waldo L.	Sturges, Miss Susan M.
Rippel, Albert A.	Tandy, Frank N.
Rogers, William B.	Taylor, Mrs. Charles G.
Roosevelt, W. Emlen	Townsend, R. Elmer
Ruddy, Joseph	Vail, Mrs. Carl M.
Saginaw Br. Amer. Ass'n of Univ. Women (Mich.)	Van Cortlandt, Miss Anne S.
Samuels, Mitchell	Vanderlip, F. A.
Satterlee, Miss Eleanor M.	Vaughan, Henry G.
Saunders, Mrs. E. J.	Walbridge, Miss Caroline C.
Seymour, W. B.	Walsh, Miss Maria T.
Shattuck, Frank G.	Weisenburg, Dr. T. H.
Sherriff, John C.	Wilson, Dr. Frank N.
Shryman, Dr. Ferdinand	Wilson, Gaines R.
Simpson, Thomas Robinson	Wilson, Mrs. Lydia M.
	Wilson, Philip S.





1. AUDUBON'S ORIOLE, ADULT MALE
2. SCOTT'S ORIOLE, ADULT MALE

3. SCOTT'S ORIOLE, IMMATURE MALE
4. SCOTT'S ORIOLE, FEMALE